FEEDSTUFFS

The Weekly Newspaper for the Feed Industry

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Trade to Confer With Officials on FDA Regulations

WASHINGTON—A feed industry liaison committee representing two national associations is scheduled to meet with Food and Drug Administration officials on Nov. 18 for the first of a proposed series of meetings "to clear the air" regarding FDA regulations over the feed industry, it was reported this week by the Grain & Feed Dealers National Assn.

As previously announced, President Charles Force, Madison Clement and Frank Heffelfinger II, chairman of the national feed committee, will represent GFDNA.

Appointed to the industry committee by the American Feed Manufacturers Assn. were Dean McNeal, the Pillsbury Co., Minneapolis, chairman of the board of AFMA; Dr. Walter Glista, Wirthmore Feeds, Inc., Waltham, Mass.; William E. Noble, Oelwein (Iowa) Chemical Co.; Dr. L. W. Price, Hales & Hunter Co., Chicago; H. Leroy Schilt, Ralston Purina Co., St. Louis, and J. T. Redwine (legal), the Quaker Oats Co., Chicago.

Ex-officio members of the commit-

(Turn to MEETING, page 101)

Favorable Weather Assures Record Crop Production

WASHINGTON — Total expected feed grain tonnage has jumped above last year's peak as favorable maturing weather in October spurred corn and sorghum grain to a record finish, according to the November crop production report of the U.S. Department of Agriculture.

The report shows a record total crop production is assured as favorable October weather allowed late-growing corn and sorghum crops to reach full maturity and all-time highs.

The marked increase during Octo-

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Citrus Pulp Users May Have to Wait 'Til December for Supplies

By Special Correspondents

This week it looked like most citrus by-product users will have to wait until late in November to replenish their supplies. Market observers say it will be some time during the week of Nov. 21 or even later in the month before any citrus pulp will be produced—and then only in a limited way. It may be well into December before citrus processors will be running in volume.

Two factors have caused this lateness: That destructive hurricane of awhile back and continuous rains.

The hurricane knocked off most of the fruit which was nearing maturity and the rains, also, have affected the maturity of the crop. Fruit sugar contents still are too low for juicing. And, due to the high price being

(Turn to CITRUS PULP, page 97)

FEEDSTUFFS *Features This Week*

BULK STATION—A bulk feed station which serves both feeders and dealers, is described on **page 18.**

ZINC—Information on zinc in rations for farm animals is presented on **page 38.**

CONTRACT GROWER—The role of the contract broiler grower in the Texas, Arkansas area is told on **page 54.**

NEW MILL—Supersweet places its new LeMars, Iowa, feed mill in operation. **Page 62.**

ENZYMES—Research on the use of enzymes in swine feeding is discussed on **page 78.**

POULTRY INDUSTRY—The future of the poultry business in New England is analyzed on **page 82.**

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CAPITAL COMMENT

By John Cipperly
Feedstuffs Washington Correspondent

Farm, FDA Policies

WASHINGTON—"Old Line" Democrats here are unwilling to express any opinions on President-elect Kennedy's farm policies—or any other policies that the new administration will follow. They say that Senator Kennedy has been so intent on winning the presidential election it's unlikely he has given policy decisions much consideration yet.

This follows since the president-elect has made some fulsome promises of "goodies" for everyone, and it will be interesting to see how he goes about translating them into reality.

It should be noted, however, that since the farm belt failed to accept the allures of the Kennedy farm program announcement earlier in the campaign, with its promise of parity income for farm crops, the president-elect is not necessarily under any political obligation to those states.

Also, his secretary of agriculture is a deep, dark secret—if he has anyone in mind at this time. He might select a "lame duck" state official from the farm belt.

(Turn to CAPITAL COMMENT, page 100)

Lower Prices Forecast for High-Protein Feeds Because of Greater Supply, Trimmed Demand

WASHINGTON — Mainly because supplies available for domestic use are expected to be larger than during the past feeding year, the U.S. Department of Agriculture forecasts that average prices of high-protein feeds in the 1960-61 feeding year probably will be below the 1959-60 level.

Greater supply, however, is not the only major factor contributing to this outlook. USDA expects demand for high-protein feeds to be off a little in the new year, especially during the first half of the annual feeding period.

"Fewer livestock and poultry on farms and reduced foreign demand are expected to result in lower high-protein feed prices this fall and winter than in the same period of 1959-60," says USDA's Nov. 7 feed situation report.

"Later in the feeding year, increasing poultry numbers, along with increasing demand from hog producers in the first half of 1960 may bring a seasonal rise in high-protein feed prices in contrast with declining prices in 1959-60."

Total tonnage of high-protein feeds available for feeding in 1960-61 has been predicted to be a little larger than in 1959-60.

With another large output of high-protein feeds available for 1960-61 and smaller exports in prospect, the total quantity available for feeding may increase to around the 1958-59 level of 15.2 million tons, USDA says.

The number of protein feed-consuming animal units is expected to be close to the 1959-60 level and protein feed supplies per animal unit probably will at least equal, and may

(Turn to HIGH PROTEINS, page 100)

John C. Huckabee of Quaker Oats Dies

CHICAGO—John C. Huckabee, 46, national manager of feed sales for the Quaker Oats Co., died Nov. 8 in his sleep at his home in Geneva, Ill.

J. C. Huckabee

A native of Electra, Texas, Mr. Huckabee was graduated from Southern Methodist University, Dallas, and began his career with Quaker in 1939 as a retail cereal salesman in Fort Worth. Six years later he became manager of feed sales in the Sherman, Texas, office,

(Turn to DEATH, page 100)

USDA Predicts Marked Gain In Chick Hatch

WASHINGTON—A smaller laying flock, higher egg prices during the first part of the year and a marked increase in the hatch of chicks for laying flock replacement—these are some of the poultry predictions which have been made for 1961. The production and price prospects, and reasons behind them, are outlined in the U.S. Department of Agriculture's latest report on the poultry situation and outlook.

(Also see Poultry Survey Committee report in Feedstuffs Nov. 5. This forecast a 1960-61 feeding year laying flock averaging 4% below a year earlier and an increase of 10% in the number of chickens raised for flock replacement.)

Looking farther ahead, it may be noted that predictions have been made that egg prices will drop significantly following the anticipated

(Turn to CHICK HATCH, page 101)

Potential Layers Nov. 1 Off 4%

WASHINGTON — Potential layers (hens and pullets of laying age plus pullets not of laying age) on farms on Nov. 1 totaled 351,468,000—4% below a year earlier and 14% below the 1949-58 average, according to the crop report of the U.S. Department of Agriculture.

Area changes in numbers ranged from a 9% decrease in numbers to a 9% increase in numbers. Those area changes are as follows: North Atlantic, down 9%; West North Central, down 7%; East North Central, down 5%; South Central, down 2%; South Atlantic, down 1%, and West, up 9%.

Pullets not of laying age on Nov. 1 were estimated at 54,903,000—11% above a year earlier. Holdings were

(Turn to LAYERS, page 97)

3rd of Mississippi's Eggs Now Produced On Contract Basis

STATE COLLEGE, MISS. — Production of table eggs has grown rapidly in Mississippi over the past few years—and one of the important reasons for this growth, says John C. Sims, Mississippi State University agricultural economist, is the relatively sudden development of contractual arrangements within the industry. About a third of the state's eggs were produced under contract in 1959.

Mr. Sims illustrates the state's egg volume increase with these figures:

In 1955, cash receipts from farm marketings of Mississippi eggs amounted to $14.8 million. By 1959, the value of eggs sold from Missis-

(Turn to CONTRACTS, page 101)

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The regional circulation of this issue is concentrated in the southeastern states

Top of the Hopper

THERE IS INCREASED CONCERN among some persons about the problem of "unmixing" of mash feeds in handling, and they want to see more research and other attention to the problem. They feel that there can be more unmixing than many realize. Pelleting helps eliminate or alleviate the problem with some feeds, but, it is said, there still can be some problems in the handling between the mixer and the pellet mill.

Some speculate that this situation can be responsible for some of the differing research and commercial feeding results which may be noted. Also, they feel that close attention to, and action on, this problem by feed mills and manufacturers can help demonstrate the important role of the feed industry in relation to its competition from farm mixing and handling, where systems or methods may be less scientific or precise.

THE PAPER PRESENTED by Dr. L. C. Norris, formerly of Cornell University and now with the University of California, at the Cornell Nutrition Conference last week focused attention on one of the more intriguing prospects for development of new nutritional concepts that has come along in some time. It sent us back to a second look at the paper by Dr. Norris and P. N. Davis which appeared in Feedstuffs Aug. 27, on which the Cornell conference report was based in part. Dr. Norris and his associate have been studying the effect of chelating compounds on availability of minerals in soybean meal. (Chelates have the property of combining with polyvalent mineral elements and retaining them tenaciously, Dr. Norris explains.)

Dr. Norris and other scientists are still seeking the answer to the question, "What is the role of chelation in utilization of trace minerals?" Whether the answer will have practical application in animal nutrition is not known, but the studies under way appear to be getting at some very basic knowledge which could result in new formulation concepts.

The chelates have been used in medicine, and plant scientists have been able to apply knowledge of their findings in this field to plant nutrition, Dr. Norris reports.

AN ECONOMIST at the University of Georgia has a grant to do a study on the now defunct Chemell poultry enterprises in the Southeast. For those who have access to it, the preliminary information apparently makes extremely interesting reading. In fact, it is far too strong competition for late TV movies or the best mystery stories. Some who have seen the reports are said to have sat up all night reading them.

LOWER COSTS OF PRODUCTION and processing will enable pork to "slug it out" with broilers in the self-service meat market, with average per capita consumption of pork rising 20% to an average level of 78 lb. annually. This prediction of what may be expected 10 years from now was made by Dr. W. P. Garrigus of the University of Kentucky at the recent National Swine Industry Conference. He believes, too, that the hogs of the future will be marketed at 135 days of age weighing 170 lb., yielding trimmed hams and loins approximating in weight those from the present 200-lb. hogs but surpassing them in tenderness and eye appeal. Feed efficiency of 2½ lb. feed per pound of gain is envisioned by this scientist.

MUCH OF THE PUSH for record high broiler placements is coming from processors, reports Broiler Business. They are trying to get a steady

(Turn to **TOP OF THE HOPPER**, page 97)

How's Business?

AN EVERY WEEK REVIEW OF FORMULA FEED BUSINESS VOLUME, INCLUDING PRICE, SUPPLY AND DEMAND TRENDS

Continuation or return of mild weather to most if not all parts of the nation is holding off any sudden advance in demand for formula feeds. Even so, cattle feeds are beginning to pick up in sales. But the change will be much more significant when beef cattle are moved from picked corn fields into feedlots. Dairy feeds seem to be showing the best improvement at present. Even though hog feed business has dropped off because spring pigs are moving fast to market, the hog-corn ratio this week climbed to 17.3, Chicago basis. That's an increase of 0.7 from a week earlier and 5.4 better than a year ago. Fall pigs coming on are offering feed manufacturers the opportunity for a new market. The wholesale feedstuff price index slipped to 71.8 from 72.7 in a week. The new index is 10.2 under a year ago. In a declining trend also is the feed-grain index, which dropped from 59.4 to 59 this week. A year ago the index was 64. (Feed markets in detail on pages 98-100.)

Northwest

Feed manufacturers in this region have a variety of opinions concerning the current condition of business and why it's what they think it is.

An "average" comment probably would run something like this: Total business has been running slow, but a traditional upturn is on its way. Striking improvement has been registered in dairy feeds, improvement of a lesser degree has been shown in beef cattle feeds. A seasonal decline in turkey feeds is here. Hog marketings are heavy, accounting for a decline in hog feed business, but the fall crop of pigs is coming on, and betterment in this line of feed is beginning to show renewed strength.

While some manufacturers say their business is about even or perhaps a little ahead of what it was a year ago, most report that mild weather has made current business slower than in the early part of November last year.

Nearly all feed manufacturer representatives questioned replied that a good fall of snow would do more than anything to improve demand. Dairy animals are in out of the weather, but beef cattle are gleaning freshly picked corn fields and some egg producers still have their layers out on ranges.

Since a large share of this year's corn crop is already picked, it won't be many weeks before farmers can forget that chore and start thinking again about their formula feed needs.

"Business is much better than it was a month ago, but it's about even with November of last year," one observer noted. Another said his company's business during the past six weeks was 15% ahead of the like period a year ago.

It's more than likely that feed sales will continue to multiply. Ingredient and feed prices have been relatively low for some time, so dealers and feeders have been holding off on their purchases. It'll take an up market to get many of them back into a buying mood. They don't want to buy now because there's a chance that prices may drop even further.

Northeast

Sales of formula feed held up better than expected in view of election uncertainties. It was thought that a pre-election dip might occur but the sales turnover held at the slightly accelerated levels of the past three weeks.

Consumers are maintaining inventories but they are not doing much extended forward buying because of abundant supplies.

Dairy feeds continued to lead in sales tonnage, followed by egg mashes, growing feeds, turkey and broiler feeds and a dribble of hog feeds.

Broiler prices weakened a little in the East, but eggs firmed up at the wholesale level, especially in the medium sizes.

Turkey prices are holding their own. There is little done in the western New York area on turkeys for wholesale distribution. But a number of growers have built up a retail clientele large enough to support 3,000 to 4,000 bird flocks. They have their own slaughter houses and sell oven-ready birds at good profit margins.

There was little feature to the ingredient market during the week, with the exception of soybean oil meal (44% and 50%) which declined $2 to the lowest levels since World War II.

Major grains were off, with corn down 2¢ and oats off 1¢. Barley and feed wheat were steady.

Southeast

All types of formula feed business are reported as being practically unchanged. Mill running time is about normal. Broiler prices to producers remained low during most of last week but the market improved slightly due to fairly adequate to short supplies in many states.

Prices paid for broilers in the states of Alabama, Georgia, Mississippi and North Carolina are 14½¢ lb., f.o.b. the farms—down ½¢ lb. Good growers are at about a break-even basis at this level. This is due to the low price of feed ingredients, otherwise they would have a loss.

Soybean meal continues to be offered for November-December shipment at practically $5 ton under old process 41% cottonseed meal, and many ranchers and feed mills in the Southeast are rapidly taking cottonseed meal out of their formulas and are booking their requirements up through the first of the year with the low priced soybean meal.

Cottonseed hulls continue to be in tight supply, with prices holding firm at $19-20 ton, sacked, f.o.b. Mississippi Valley points, and $22-23 ton, f.o.b. South Carolina and Georgia producing points. However, mills are meeting buyers' resistance at these levels.

To our knowledge, there are only two citrus plants operating at this time and only on a very limited scale, and most believe that it will be at least another two weeks before any pulp will be available for sale. Prices continue firm at $47.50, f.o.b. producing plants.

Central States

By and large, demand for formula feeds in this section of the country during the past week showed but little change from the one previous. Running time shows no inclination to increase and anything in excess of

(Turn to **MARKETS**, page 103)

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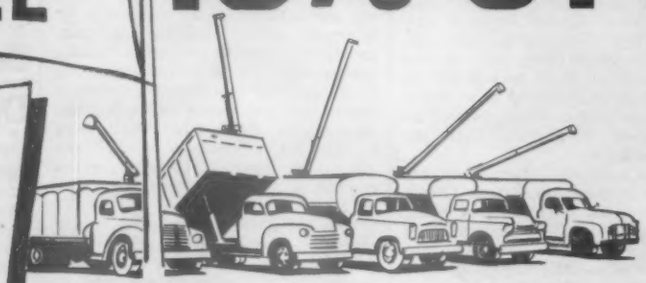

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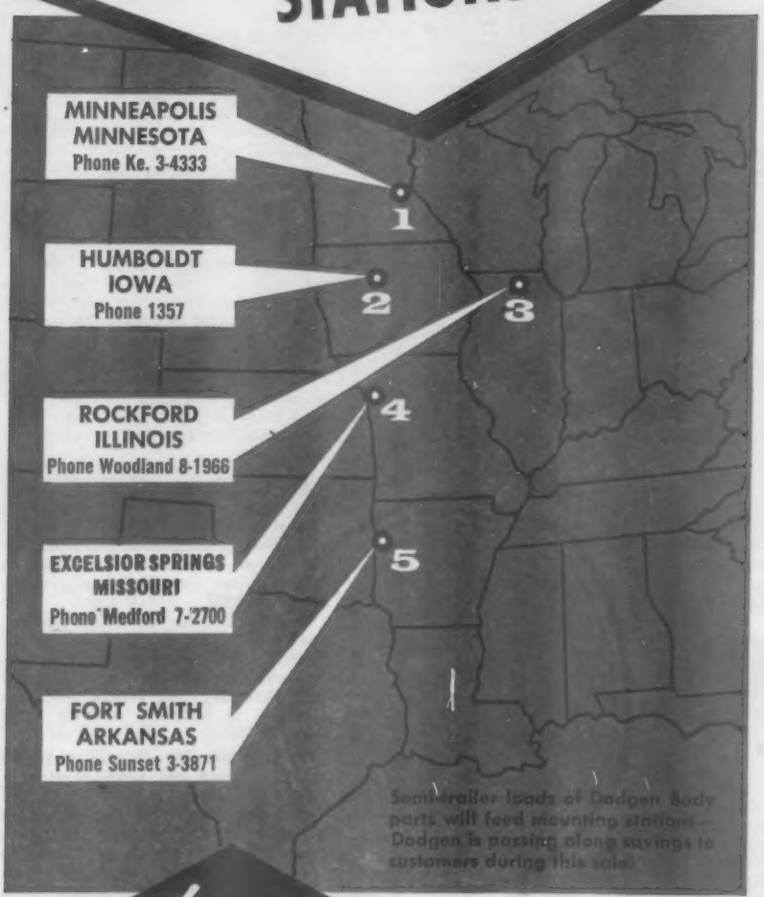

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Turkey Condemnation Spurt Settling Back to Normal

By FRED E. TUNKS
Feedstuffs Staff

Turkey growers and processors of Minnesota and Wisconsin who endured higher than usual condemnation of birds for a period of about two weeks in October indicate that things have settled down into a more stable situation. Processing plants which during that period had up to 5% of their birds turned down on eviscerating lines by federal inspectors find that this rejection rate has again dropped back to a normal rate of 1½% or less.

The inspection and rejection problem was not widespread throughout the turkey industry, reports indicated, but quite a number of individual growers were reported to have suffered very serious losses from condemnations which were held by the trade to have been unjustified in many instances. And feed firms which finance turkey operations, as well as the growers themselves, have expressed concern.

Officials said that there were not widespread condemnations (Feedstuffs, Nov. 5), but losses of many thousands of dollars were sustained by some growers in the important Minnesota-Wisconsin turkey area, industry reports indicated.

The "back-to-normal" turkey condemnation shift is particularly welcomed by growers who are marketing birds now or who have been selling them since the beginning of November. But some growers who marketed significant numbers of turkeys along about the middle half of October are sorry they didn't hold off on selling until later.

The Question

Why should turkey condemnations have been greater during a particular period—as has been reported by many processors and producers in Minnesota and Wisconsin—than at other times?

It appears as though the problem, now greatly diminished, can be likened to that which has been reported from various broiler areas. Turkey men say there has been in recent periods a lack of uniformity in inspections.

The burst in rejections by representatives of the U.S. Department of Agriculture's poultry inspection service came during a period of about two weeks, beginning about Oct. 10.

A great share of these increased rejections was reported due to some "air sac condition."

Both of these situations can be explained, at least from the viewpoints of producers and processors.

They say that when a new law made it mandatory for all plants which process birds shipped in interstate commerce to be inspected, USDA, of course, found it necessary to add many new inspectors. Some of these inspectors, said to have been adequately trained but perhaps short on turkey inspection experience, found things wrong with turkey carcasses that other inspectors did not.

Air sacs, found at various locations inside the turkey's body, seemed to attract special inspection attention. Appearances and conditions of these air sacs seem to have prompted inspectors to reject a higher than usual number of birds.

In the final analysis, however, it appears that some birds rejected for air sac inflammation, congestion or whatever (now classified as "airsaculitis") may have been totally wholesome birds. Many processors are convinced that "some inspectors threw out the wrong birds because they didn't know what they were looking for." In other words, they think some inspectors misinterpreted certain inspection criteria set down by USDA.

This stand is substantiated by the fact that condemnation percentages dropped back to normal soon after processors and growers appealed to USDA and organized a meeting in Minneapolis among processors, growers, federal inspection officials and others. Turkeymen say inspections are now more uniform again.

Research Program

Although some inspection problems have been ironed out, the turkey industry in the upper Midwest is promoting research programs to find out just what there is to worry about because of air sac trouble.

Roy Munson, secretary, Minnesota Turkey Growers Assn., St. Paul, says the organization has allocated $5,000 to a project to find out what might be done about undesirable air sac conditions. Also, Minnesota turkey growers are contributing voluntarily to the research program—which will involve the research talents of the University of Minnesota, and possibly USDA—by giving ½¢ per bird marketed. The University of Wisconsin as well as institutions of other turkey states are interested in cooperating in "airsaculitis" studies.

Initially, the turkey industry is supporting research efforts, but it is probable that state and federal funds may be added to the cause.

One of the complicating factors in this research is that apparently it is not definitely known what air sac

(Turn to CONDEMNATIONS, page 101)

George Greenleaf

John K. Minnoch

Jack Roberts

WESTERN GRAIN & FEED—Annual convention of the Western Grain & Feed Association of Iowa will be held in Des Moines Nov. 20-22 at Hotel Fort Des Moines. Theme for the meeting is "For Unity—Enthusiasm—and Action—Go Western." Among the program speakers are the three men shown above. At the left is George Greenleaf, executive secretary of the Ohio Grain & Feed Dealers Assn., Worthington, Ohio, who will speak on "Managing Your Feed and Grain Business for a Profit." In the center is John K. Minnoch, Chicago, humorous business and sales speaker whose topic will be "Sense and Nonsense." At the right is Jack Roberts, director, grain branch, U.S. Department of Agriculture, Washington, member of the panel discussion on "The Grain Storage Situation in 1961." Charles S. Force, Kalamazoo, Mich., president, Grain & Feed Dealers National Assn., will speak.

ALL EGGS UNDER CONTRACT SEEN

LINCOLN, NEB.—Nebraska poultrymen were told here that "in five years, if Nebraska farmers are not in contract farming, they will not be in the egg business." The prediction—as quoted in Poultry & Eggs Weekly—was made by Don Turnbull, executive secretary of the American Poultry & Hatchery Federation, a speaker at the annual meeting of the Nebraska Poultry Improvement Assn.

Mr. Turnbull was quoted as saying that producers in Nebraska and other states in the area must turn to one of several types of contract growing arrangements in order to provide customers with the required quantity and quality of eggs they seek.

Broiler Egg Set Down in 15 States

SALISBURY, MD. — Egg settings last week were down in 15 of the 22 important broiler producing states. However, this was only a 2% decrease from the previous week. The week's set, at 42,061,000, was 10% above the same week a year ago.

States reporting sizable egg set decreases included Alabama, California, Virginia and Georgia. Broiler chick placements, on the other hand, increased last week. Georgia, Indiana and Arkansas had appreciable increases.

Placements in the 22 states totaled 29,534,000 broilers. This was 5% above the previous week and 12% above the corresponding week a year ago.

The average price paid on the farm last week in Delmarva was 16.50¢ lb. as compared to 16.54¢ the week before and 15¢ a year ago.

Washington Feed Mill Builds Broiler Houses

CARNATION, WASH.—The Nordquist Feed Mill, Redmond, Wash., has five large poultry buildings under construction near Carnation. Each building measures 40 x 250 ft. Four more of these units will be constructed in the near future.

The plant here will be completely equipped with automatic feeding and watering systems, and will be managed by present personnel, report officials at the Nordquist Feed Mill. The firm plans to produce more than 100,000 fryers every three months after Jan. 1 and expects to ship the great bulk of these to the Seattle market.

Contributions Being Made to Burrell Fund

KANSAS CITY—Contributions are being received for a special fund honoring the memory of the late James H. Burrell, who was president of James H. Burrell & Co., St. Louis. Mr. Burrell, who was widely known in the feed industry, died Oct. 4.

The memorial fund is being used to furnish a room for a student in the Oscar Straube Memorial Scholarship House at Kansas State University. This house is operated at the university to help feed technology and other agricultural students. The Burrell family has expressed gratitude to the industry for recognition of Mr. Burrell's service through the fund being used for the scholarship house room.

Contributions may be sent to the Midwest Feed Manufacturers Assn., 20 W. 9th St., Kansas City 5, Mo. Checks should be made out to James H. Burrell Memorial Fund-Kansas State University.

USDA Sees More Turkeys, Lower Prices

WASHINGTON — The 1961 prospect for increased turkey production, and lower prices, were brought out in the U.S. Department of Agriculture's report on the poultry industry outlook.

(The Feed Survey Committee of the American Feed Manufacturers Assn. also predicted increased turkey production for 1961—about 7% over 1960, most of which will be with heavy, rather than light, breeds. See Feedstuffs Nov. 5.)

Reasons for the predicted increase are many. The same technological advances that have spurred broiler production are encouraging increased output of turkeys. Also, the turkey enterprise has moved a long way toward an integrated production pattern, somewhat similar to that for broiler production.

These factors, USDA noted, encourage larger production, and in addition, the economic out-turn from the record 1960 crop promises to be good—so a larger crop is likely for 1961.

Two recent reports bear out expectations for a larger 1961 crop. First, a 15-state October survey of farmers keeping turkey breeders shows an intended increase of 23% in the number of breeder hens to be kept this winter. Second, testings of turkey breeders since July 1 have averaged 60% above the same period last year.

Both of these figures are indicative of the probable direction of change in the size of the crop, USDA said, but are greater than the probable change in magnitude.

The 1960 turkey crop survey included 37% fewer Beltsville turkeys than the year before; the difference was more than made up by additional heavy-breed turkeys—many of them heavy whites slaughtered at light weights.

Light weight turkeys ("broiler-fryers") have sold this year at a premium that was generally absent in 1959. Despite this favorable experience with small turkeys, the reports on testings and on intentions to keep breeder hens suggest that the number of Beltsvilles will not be increased next year to nearly the same extent that heavy turkeys are increased.

More Turkeys—Lower Prices

If—as seems likely—turkey production increases significantly from the 82.3 million birds raised in 1960 (the Feed Survey Committee predicts that 88 million turkeys will be raised in 1961), prices are likely to average lower in 1961.

Again following the broiler pattern, the stage is already set, to some degree, for lower prices than year-ago in early 1961. Slaughter in January and February will reflect the 30% increase in hatchery activity since August 1st.

In addition, the 49 million pound increase (over last year) in storage holdings on Sept. 30, 1960, will more than offset the prospective cuts in November-December slaughter. January 1 storage stocks are likely to continue larger than the year before.

A repetition of the turkey price run-up of December, 1959, is unlikely, suggesting that whatever price adjustment occurs in the new year will start from a lower level than in early 1960.

This leads up to the expectation that turkey prices in the first three to four months of 1961 will more nearly resemble those of January-April, 1959 than 1960. Prices thereafter, will increasingly reflect the size of the crop then growing, but since the crop is likely to be larger, prices are not likely to exceed 1960, USDA points out.

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ADDRESS ILLINOIS MEETING—Shown here are four of the speakers at the annual convention of the Illinois Feed Assn. In the first photo is W. E. Glennon, president, American Feed Manufacturers Assn., Chicago. Other speakers are, left to right, Paul C. Baichly, Ralston Purina Co., St. Louis; Dr. John Sharp, Ohio State University, and Raleigh Solomon, vice president and farm department manager, Citizens National Bank, Macomb, Ill.

Credit, Financing Studied At Illinois Feed Convention

By DON E. ROGERS
Feedstuffs Staff

SPRINGFIELD, ILL. — Credit and financing in the feed business came in for considerable scrutiny at the sessions of the joint convention of the Illinois Feed Assn. and the Illinois Poultry & Hatchery Federation held here.

(Also see earlier story on convention in Feedstuffs Nov. 5.)

Representatives of the feed industry and financial institutions told the 1,000 persons attending the meeting in the Springfield Armory of the increasing needs for farm financing as farming becomes bigger business.

It was pointed out to the feed men that their extending of credit is a service and that an effort should be made to include costs of the service in the sales prices just as gasoline and oil prices include a charge for "free road maps."

A plan for financing feed purchases of patrons through local Production Credit Associations was explained by a representative of the Federal Intermediate Credit Bank of St. Louis.

The importance of programming credit was explained by a Macomb, Ill., banking official. He said that loans should be made considering an entire year's needs rather than on a piecemeal basis.

An Ohio State University economist told the feed men that the grain bank program of the future will not stand alone, but be a part of an entire feed selling program of which feed grain storage will be a part.

ROAD MAPS ARE NOT FREE—W. E. Glennon, president, American Feed Manufacturers Assn., Chicago, spoke on this topic. He pointed out that while filling stations distribute road maps free as a service to the driving public, the cost of these maps is sizeable and somewhere in the price of gasoline and oil this cost has been included. Feed manufacturers should realize that the services they perform cost money and an effort should be made to include such costs in their sales prices. Credit, he said, must be paid for the same as other products and services.

In discussing patterns of feed distribution for the future, Mr. Glennon predicted that family farms will continue very much in the agricultural picture, but that they will become much larger and will require more capital and more indebtedness to operate. This will require changes in feed manufacturing and distribution to keep pace with these larger "big business" farms.

Large centralized feed mills are likely to trend more toward concentrates, he said, while there will be a continued trend toward smaller local mills. Portable mills will remain in the picture, but only to the extent that they prove their ability to fill a need. On-farm mixing seems likely to expand, he said, especially among larger feeders. The AFMA is making a study of farm mixing and expects to release the results in the not too distant future, he said.

He sees a trend toward what might be termed farmer-rancher service centers to service the increasing size of farm operations, with a corresponding decrease in strictly retail feed stores. Some feed mills may be built next to big feedlots in order to get this business, and there probably will be some expansion in bulk car deliveries to bulk storage centers, he said.

EXTENDING CREDIT PROFITABLY—Paul C. Baichly, Ralston Purina Co., St. Louis, spoke on extending credit. Credit is necessary to sell more products, he said, describing credit as the "oil which lubricates the distribution system to allow a smooth flow of produce from producers to consumers."

He pointed out that credit costs in time management, both sales and collections, require that a sound credit system be established and followed closely. There should be careful selection of customers to whom credit may be extended. Use a credit application form and have a complete understanding with the customer about the necessity for credit. Ask for a financial report on the part of the customer, he said.

There is a profit to be made if sound credit programs are followed. Until such time as the banking industry can be induced to come into the picture, the feed industry must offer something in the way of assistance, but he advocated that feed dealers build better relations with local bankers.

A CREDIT SERVICE FOR AGRICULTURE—A plan whereby patrons of feed firms can use the services of local Production Credit Associations to finance purchases which would normally be carried as accounts receivable was discussed at the Illinois meeting by T. R. McGuire, assistant vice president, Federal Intermediate Credit Bank of St. Louis. That is the Sixth Farm Credit District and serves Illinois, Missouri and Arkansas.

Mr. McGuire said, "In an effort to meet the needs of a changing agriculture and in answer to a number of requests from farm supply cooperatives the Production Credit Associations worked out a plan whereby the patrons of these cooperatives can use the services of Production Credit to

(Turn to ILLINOIS, page 102)

ILLINOIS FEED ASSN. OFFICERS—Carl Rylander, left, Kauffman Feed Mill, Waterman, Ill., will serve as president of the Illinois Feed Assn. for the coming year. He is shown receiving congratulations from Dan Teefey, Teefey Grain Co., Mt. Sterling, Ill., retiring president. Next to Mr. Teefey is Ted Myren, Faultless Milling Co., Springfield, Ill., who was reelected treasurer. Dean M. Clark, Chicago, extreme right, was reelected executive secretary. The election was held during the annual convention of the IFA in conjunction with that of the Illinois Poultry & Hatchery Federation at Springfield.

Awards Given to Most Courteous Salesmen

SPRINGFIELD, ILL.—Special awards for being the most courteous salesmen on the exhibit floor of the Springfield Armory during the joint convention of the Illinois Feed Assn.-Illinois Poultry & Hatchery Federation Nov. 2-3 were won by Harold Burch, Dixie Mills, East St. Louis, Ill.; R. E. Maxwell, National Ideal Co., Toledo, Ohio, and Don Holden, Thermo Fax Sales Co., Decatur, Ill.

Earnings Drop Off At Walnut Grove

ATLANTIC, IOWA — Sales and earnings in the first nine months of this fiscal year for the Walnut Grove Products Co., Inc., were lower than for the same period in 1959. At the same time, August sales set a record this year, and prospects are good for the last quarter, says J. J. O'Connor, president.

Sales for the nine months ended Aug. 31 totaled $12,112,085 compared with $13,762,298 a year ago. Net earnings were down to $414,262 compared with $706,575 last year.

The net was equivalent to 69¢ a share on class A stock or 27¢ assuming full conversion of class B, compared with $1.22 and 50¢ a year ago.

Mr. O'Connor said the August gain reflected a steady improvement in sales as the hog market rose. He added that fourth quarter sales are expected to be 10 to 15% higher, with profits above a year ago.

John Heimovics on Pacific N.W. Program

SEATTLE — John Heimovics, Weitz-Hettelsater Engineers, Kansas City, will be a participant in sessions planned for the 1961 Pacific Northwest Feed Mill Production School. The school will be held Feb. 8-9 at the Hotel Leopold in Bellingham, Wash.

J. Heimovics

Mr. Heimovics has been named chief engineering consultant to the production school committee. He will not give a major talk but will take part in sessions during the two-day school. He will be one of the principal members of a panel planned for a workshop session called "Open Season Session." This will be a session at which any question may be asked on any feed milling problem.

J. G. Wilson, manager of the Washington State Feed Assn. (sponsor of the school), said that five workshop sessions will be a major feature of the 1961 school. These will be informal meetings, with the feed men seated around tables and asking questions on the topics being covered.

The theme of the school will be modernization and "making yesterday's mills do today's business." Speakers will cover various aspects of mill operation, and there will be special talks on Food and Drug Administration regulations and other topics. The workshop sessions will deal with production problems plus other topics of current interest to feed mill operators.

The school will be held immediately preceding the Washington group's convention, set for Feb. 10.

4-H Youth Exchange

CHICAGO—Eight outstanding 4-H enthusiasts from across the nation—from Florida to Alaska—will be in Toronto, Canada, from Nov. 12 to Nov. 17, as all-expense paid guests of the International Minerals & Chemical Corp. to participate in a U.S.-Canada 4-H Exchange.

The exchange in the Canadian metropolis will be held in conjunction with the 29th National 4-H Club Week sponsored by the Canadian Council of 4-H Clubs.

On hand to confer with the American 4-H'ers in Toronto will be Joseph McGarry, IMC vice president. The U.S. contingent will be in Canada under the supervision of Owen Trask, 4-H Club specialist at the University of Connecticut.

International Milling Announces Earnings; Feed Division Expands

MINNEAPOLIS—International Milling Co., Minneapolis, has announced earnings of $4,092,990, fourth highest in the firm's history. The fiscal year ended Aug. 31, of this year, also saw expansion in the Supersweet Feeds division of the company in both the U.S. and Canada.

The Supersweet division, formed in 1952, now has 10 operating feed plants in the nation. As the year opened, a new plant at New Hampton was just getting into full operation. Since that time, two more plants at Madison, Wis., and Le Mars, Iowa, have gone into production.

Also, during the year, Supersweet completed the third stage of a 5-phase building program at a new research farm at Courtland, Minn.

In Canada, Robin Hood Flour Mills, Ltd., increased its formula feed business through the purchase of the Milton Milling Co., Ltd. Robin Hood has operated a feed plant at Montreal since 1952, and the purchase of the Milton firm is considered an important extension to the Robin Hood formula feed business in Quebec.

Feed warehousing facilities at Montreal were greatly expanded during the last year, too, according to the annual report.

Sales hit a record high during the fiscal year, but earnings were down 30% from the all-time high reached a year earlier of $7,301,965. Earnings were equal to $8.53 per share of common stock, compared with $11.59 a year ago.

International Milling Co. officials did not announce total sales for the company in the annual report.

The decline in earnings was due primarily to increased expense and aggressive price competition, according to statement by Charles Ritz, chairman, and Atherton Bean, president.

Current assets in the reports were listed at $70,457,229, up from $69,677,431 last year. The firm's total assets at the end of the year were $106,896,211.

The report also pointed to progress in several areas of the company. At the year's end, the company employed 4,334 men and women of whom 2,518 are members of the firm's profit sharing retirement program. A total of $511,748 was contributed by the company, out of its profits, to profit sharing, boosting the total amount in the plan to over $5 million, to be used for future benefits for employee participants.

Overseas operations were expanded during the year with the addition of a mill at Maracaibo, Venezuela.

During the year, the top level management structure of the firm was reorganized into four separate divisions each headed by a vice president responsible for both sales and production activities. Certain staff departments continue to aid these four divisions on an over-all company basis.

"This new organization structure will enable us to react more promptly to problems that arise within our various divisions, to operate more profitably during the next decade of change and permit us to adapt our organization readily to the expansion which we anticipate," said Mr. Ritz and Mr. Bean.

An executive job evaluation program was instituted during the year to "insure that our management compensation will be balanced both within the organization and with the surrounding business community," they added.

MRS. BARR DIES

KANSAS CITY — Mrs. Barbara Barr, 46, died at home here Nov. 5. She was the wife of Bradley Barr, Sr., of the M. A. McClelland Co., Kansas City feed ingredient sales firm. Among the survivors, besides her husband, are four sons, all at home.

Control Officials Publication Available

RICHMOND, VA.—Feed men who wish to have copies of the 1961 Official Publication of the Association of American Feed Control Officials are advised to place their orders now.

Orders may be sent to B. W. Southall, Treasurer, Association of American Feed Control Officials, 1122 State Office Bldg., Richmond 19, Va. The price is $5 per copy.

The publication is now in the hands of the printer, and delivery is expected in early December. Not only will the book contain all of the changes adopted at the recent AAFCO meeting in Washington; it also provides a record of all definitions and other facts necessary for registration and labeling of feedstuffs insofar as the national association is concerned. Committee reports and talks made at the Washington meeting are included. A bibliography of methods for analysis of feedstuffs will be presented. This will provide ready reference to the latest AOAC Book of Methods and journal articles where the actual methods may be found. This will reduce the size of the AAFCO publication somewhat but should make it even more valuable as a reference, control officials note. The reader may quickly determine where to find these necessary procedures.

Copies of the publication will be rushed to those placing orders as quickly as they come off the press. It is important, therefore, that orders be placed at once to avoid delay in receiving copies.

(The report on action at the recent meeting, including definition changes, appeared in Feedstuffs, Nov. 5, page 82.)

ELECTED BY AAFCO—E. A. Epps, Jr., of Louisiana (right), was advanced from vice president to president of the Association of American Feed Control Officials at the group's annual meeting in Washington, D.C. Other new officers looking through Shoreham Hotel window are B. W. Southall of Virginia (left), treasurer, and C. R. Phillips, Ottawa, Canada, vice president (Feedstuffs, Oct. 15).

Cooperative to Build Feed Plant in Kansas

HUTCHINSON, KANSAS — The Reno Consumers Cooperative, Hutchinson, Kansas, has awarded a contract to Borton, Inc., Hutchinson, for construction of a new pushbutton feed mill at Hutchinson. The plant will have a capacity of 100 tons per 8-hour day of blended and pelleted feeds.

Included in the plant will be facilities for handling bulk feed in trailer load quantities with fast operating equipment, but the custom-type customer also will be serviced with other facilities.

The contract calls for a warehouse for bagged feed, and a new office and a complete gasoline filling station for car and truck service.

The plant is expected to be completed early next spring.

New Representatives

NORTH BROOKFIELD, MASS.—Two sales and service representatives have been added to J. J. Warren sales and service staff in the New England area, according to James J. Warren, Jr., general manager of the poultry breeding firm. Harold E. Patten, Kingston, N.H., has been named to handle an area including New Hampshire, eastern Massachusetts and Rhode Island. Ronald Kokansky, North Brookfield, Mass., will represent the firm in western Massachusetts, Vermont and Connecticut.

Francis Albers, Jr., of Albers Milling Dies

LOS ANGELES — Francis Albers, Jr., son of a founder of Albers Milling Co., died here Nov. 1 of a cerebral hemorrhage at the age of 51. He was vice president and a member of the board of Albers Milling Co., a division of Carnation Co.

Francis Albers, Jr.

His father, Francis Albers, was one of five brothers who founded Albers Milling Co. in Portland, Ore., in 1895, and established grain, cereal and feed mills in Portland, Seattle, Tacoma, San Francisco, Oakland and Los Angeles.

For 30 years, Mr. Albers was associated with the Albers Milling division of Carnation Co., starting in 1930 as a mill laborer in Oakland, Cal., and rising to vice president in charge of production at Carnation's world headquarters here.

He is survived by his wife, Juliet Azaro Albers, and four daughters; his mother, Mrs. Frank Albers; brothers, Lewis and William Albers, Walnut Creek, Cal.; Herman Albers, Chicago, and a sister, Mrs. Bernard Rice, San Francisco.

$500,000 FIRE LOSS

MISSOURI VALLEY, IOWA—Fire destroyed the Loveland Grain Elevator here Nov. 6 with a loss estimated at $500,000.

Vet Prescription of Drugs for Feeds To Be Discussed

KANSAS CITY—What drugs can a veterinarian prescribe for addition to a formula feed? And can a feed manufacturer legally mix these drugs into the feed, once the veterinarian has prescribed them?

Dr. L. C. Harold

Answers to these and other questions are expected to be given to feed men and veterinarians attending the third annual Veterinary-Nutrition Conference by Dr. LaVerne C. Harold, assistant veterinary medical director, Food and Drug Administration, Washington, D.C. The FDA official will be one of a number of speakers from the veterinary and feed fields who will speak during the conference at the Hotel Continental here Dec. 12-13. Sponsor of the event is Midwest Feed Manufacturers Assn.

Dr. Harold is expected to specify the drugs that a veterinarian cannot prescribe as feed additives and to explain to feed men which drugs they may not mix into feed, even when a bona fide doctor-patient relationship exists between the veterinarian and the farmer. It is also anticipated that he will shed light on how FDA defines the "doctor-patient" relationship.

Dr. Harold has been in his present position since 1957. A native of Kansas, he earned his B.S. in agriculture and his D.V.M. degrees from Kansas State University. Later Dr. Harold was awarded a law degree from Kansas City University. He is a licensed attorney as well as a veterinarian.

Reservations for the Veterinary-Nutrition Conference, including hotel reservations, may be made through the Midwest Feed Manufacturers Assn., 20 West 9th Street Building, Kansas City 5, Mo.

Oilseed Meal Futures Decline at Memphis

MEMPHIS, TENN.—Light demand on the cash market and higher soybean oil and cottonseed oil prices led to a decline in oilseed meal futures on the Memphis Board of Trade the past week.

As for several weeks, immediate cash prices were at big discounts compared with forward months. This reflected heavy production of soybean oil meal over the country as processing mills developed large crops of soybeans.

Cottonseed oil meal was quiet, drifting downward, with futures and cash prices off $1.25-$2 ton compared with a week earlier. Cottonseed oil meal was still trading at a premium over soybean oil meal in this area for nearby positions. Because of this, some buying was noted for the cheaper soybean oil meal.

Mixed feed business was reportedly better than the week before.

Unrestricted soybean oil meal closed 25¢-$1 ton lower than the previous week; Eastern Trunk Line soybean oil meal was unchanged, and bulk solvent cottonseed oil meal was $1.25-$2 lower.

NEW POULTRY NEWSPAPER

LITTLE ROCK, ARK.—Announcement is made that the Arkansas Poultry Federation will sponsor its own trade newspaper—Arkansas Poultry News. Tom Anderson, owner of several farm magazines, has been named publisher of the new paper, to be published weekly, with the first edition scheduled to appear Jan. 3. Mary C. Clark, a veteran of some 20 years' experience in the poultry reporting field, has been named editor of the Arkansas Poultry News.

USDA Analyzes Data Indicating More Broilers and Lower Prices in 1961

WASHINGTON—Developments indicating increased broiler production and lower prices in 1961 were analyzed by the U.S. Department of Agriculture in its November report on the poultry outlook. USDA figures that 1961 broiler production may top the 1960 total of 1.8 billion birds by some 6 to 8%, with the largest gain in the first half of the year.

(As reported previously, the Poultry Survey Committee of the American Feed Manufacturers Assn. has predicted 1961 production of more than 1.9 billion broilers, up 7% over 1960. See Feedstuffs, Nov. 5.)

USDA says that the prospective increase in 1961 will result partly from (1) the continuing pressure toward increase. related to developing technology of broiler production, and the integrated form of the industry's organization, plus (2) the favorable prices for broilers through October.

These factors, it was noted, are behind the 15% increase over last year in broiler hatchery activity since the beginning of September, and the 26% increase in the past five months in the number of pullet chicks sold for broiler breeder flocks. The recent increases in broiler chick hatchings indicate a large supply of broilers into the first quarter of 1961. The increase in sales by primary breeders of pullet chicks suggests a more readily available supply of hatching eggs in the last half of that year.

The price adjustment to the prospective increase in broiler supply, said USDA, may come before the end of 1960, heading off a repetition of the contra-seasonal broiler price increase which occurred in December last year.

The 1960 gain in broiler numbers, 4-5%, is a modest one as broiler production increases go, USDA observes. In the last 15 years, the industry has averaged a 12% increase per year. In only one of the years since 1945 has there been a cut from the previous year.

This long term increase in output has occurred despite a steady decrease in prices. The explanation, according to USDA, for the continuing rise in output in the face of declining prices is the concurrent reduction in production costs. The adoption of new methods is continuing and pro-

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Oilseed Meals Dip, But Millfeeds Gain

Oilseed meal prices weakened still further this week, but an upward trend was shown in millfeeds, especially bran.

The millfeeds advance came very late in the calendar week, so the accompanying table of the changes in average bulk prices in the U.S. from Nov. 1 to Nov. 8 still shows a weaker market for those commodities.

Otherwise, most feed ingredient prices were steady and no change in manufactured feed prices was anticipated.

Average Bulk Prices and Index of Weighted Prices*

(Dollars per ton)

	Nov. 8, 1960	Nov. 1, 1960	Change from previous week
OILSEED MEALS			
Prices at prin. mkts.:			
Soybean meal	54.85	56.35	—1.50
Cottonseed meal	57.50	58.65	—1.15
Linseed meal	61.85	62.20	— .35
Copra cake or meal	57.50	57.50	...
Peanut meal	51.00	53.50	—2.50
Index	73.0	74.7	—1.7
ANIMAL PROTEIN FEEDS			
Prices at prin. mkts.:			
Meat meal	67.40	66.75	+ .65
Tankage	67.05	66.70	+ .35
Fish meal	88.50	90.00	—1.50
Index	62.2	62.2	...
GRAIN HIGH-PROTEIN FEEDS			
Prices at prin. mkts.:			
Gluten feed and meal	46.85	46.45	+ .40
Dist. dried grains	59.60	58.85	+ .75
Brewers dried grains	49.00	48.50	+ .50
Index	76.8	76.1	+ .7
WHEAT MILLFEEDS			
Prices at prin. mkts.:			
Bran	39.00	39.25	— .25
Midds. and shorts	39.80	40.25	— .45
Index	71.2	71.8	— .6
OTHER MILLFEEDS			
Prices at prin. mkts.:			
Hominy feed	43.30	44.30	—1.00
Rice bran	29.00	29.50	— .50
Index	65.8	67.3	—1.5
ALFALFA MEAL			
Prices at prin. mkts.	51.55	50.70	+ .85
Index	99.2	97.6	+1.6
MOLASSES, FEEDING			
Prices at prin. mkts.	24.88	24.66	+ .22
Index	74.0	73.4	+ .6
ALL FEEDSTUFFS			
Index	71.8	72.7	— .9
FEED GRAINS			
Prices at prin. mkts.:			
Corn	35.80	36.20	— .40
Oats	42.90	42.90	...
Barley	41.80	41.40	+ .40
Grain sorghums	34.70	34.70	...
Index	59.0	59.4	— .4

*Base period of index is 1947-49.
Source: USDA

Merger Discussed by Two Canadian Firms

TORONTO — Negotiations toward amalgamating Maple Leaf Milling Co. and Toronto Elevators, Ltd., were announced here this week at the annual meeting of the elevator firm. The negotiations came as a result of overtures made a year ago by Maple Leaf Milling, according to the Wall Street Journal.

J. D. Leitch, president of Toronto Elevators, gave no details but said it was hoped stockholders would be informed of the proposal in the near future and stated that it would be subject to approval at a future meeting of the stockholders, the Wall Street Journal indicated.

As of July 31, Maple Leaf Milling listed total assets at $35,546,055 with 532,414 common shares outstanding and Toronto Elevators listed assets at $34,361,955 with 759,861 shares outstanding.

Maple Leaf Milling operates five flour mills, including one at Port Colborne to be rebuilt following a recent fire, a 2-million-bushel grain elevator and several cereal and feed plants, warehouses and branch sales offices.

Toronto Elevators owns or controls two grain elevators with a combined capacity of 9,400,000 bu. and owns and operates a feed mill and flax and soybean plant at Toronto. Subsidiary companies are: Sarnia Elevator Co., Ltd., Hogg & Lytle, Ltd. and St. Clair Grain & Feeds Ltd.

Mr. Leitch said Toronto Elevators' sales and earnings for the first two months of the current fiscal year were improved over the like period last year. For its latest fiscal year, the firm had net income of $801,270, or $1.50 a share.

Lake Shipment

MINNEAPOLIS — A Minneapolis bag manufacturing firm, the Sam Miller Bag Co., has announced receiving for the first time a shipment of burlap through the port of Duluth, Minn. The shipment, consisting of 40 bales of burlap cloth, was loaded at Calcutta, Ind., Nov. 1.

Officials said it marked the culmination of an attempt, begun two years ago when the St. Lawrence Seaway was completed, to get shipments of burlap from India directly to Duluth, on Lake Superior. Previously burlap was unloaded at eastern or Gulf ports. It was pointed out that the new route results in lower freight costs. And greater use of it, said Ruben Miller of the Miller firm, can bring lower prices on burlap bags.

Ray Lindquist Heads Minnesota Linseed

MINNEAPOLIS — Ray J. Lindquist, Jr., has been elected president of Minnesota Linseed Oil Co., Minneapolis. The board of directors also named J. D. O'Keefe vice president and treasurer, and E. H. Russell vice chairman of the board. Mr. Russell will also become president of Minnesota Paints Inc.

Ray Lindquist

Mr. Lindquist, with the company since 1946 as flax buyer, manager of oilseed purchases and vice president, is a member of the Minneapolis Grain Exchange, Chicago Board of Trade and the National Flaxseed Processors Assn.

Mr. O'Keefe joined Minnesota Linseed in 1948 and was put in charge of accounting, office management and finance.

Mr. Russell came to Minnesota Linseed in 1939 in charge of the linseed division. He became head of the firm in 1948.

Minnesota Linseed Oil Co.'s Fridley plant opened in 1949 and now has a capacity of 7 million bushels annually. It is equipped to crush both flaxseed and soybeans, using the modern solvent extraction process.

Whitmoyer Stock, Debentures Offered

MYERSTOWN, PA. — New capital to carry on with an accelerated program of expansion of Whitmoyer Laboratories, Inc., is being obtained through the sale of common stock and debentures, according to C. W. Whitmoyer, president. He said the financial program for making the additional capital available to the firm was recently completed.

Hallowell, Sulzberger, Jenks, Kirkland & Co. heads the underwriting group which is offering $250,000 of Whitmoyer 6% subordinated debentures due in 1967, with warrants to subscribe to 5,000 shares of common stock, at 100% and accrued interest. In addition, the group is offering 85,000 shares of common stock at $6 per share.

It was reported that the stock already has been oversubscribed.

The Whitmoyer firm began operations in 1931. Its line of products includes antibiotics, sulfas, vitamins, minerals, vitamin oils, anthelmintics, feed additives and supplements, premixes, disinfectants and insecticides. The products are now available throughout the free world.

Officials note that the firm has expanded steadily, and Whitmoyer Laboratories, Inc., now serves as the parent company for seven affiliated or associated Whitmoyer firms. Manufacturing plants are located in the U.S., Canada and England.

Kansas Management Conference Dates Set

MANHATTAN, KANSAS — The Kansas Grain & Industries Business Management School will be held Nov. 29-30 and Dec. 1 in the student union at Kansas State University.

The school will be limited to the first 45 applications received including the $12 registration fee. Advanced registration may be sent to the Kansas Grain & Feed Dealers Assn., 609 Wiley Building, Hutchinson, Kansas.

Purpose of the school is to provide top managers—the decision makers of agricultural marketing firms — a better understanding of the management job.

The school is conducted by the Kansas State University Extension Service, Departments of Business Administration and Agricultural Economics in cooperation with the Kansas Grain & Feed Dealers Assn.

Plans Set for APHF Western Meeting

KANSAS CITY—The program for the American Poultry and Hatchery Federation's "quickie" convention, to be held Dec. 2 and 3 at Anaheim, Cal., has been announced.

Some speakers appearing on the program during the Friday session include: Don M. Turnbull, executive secretary of the APHF, discussing "Labor's Intentions and Progress in Agriculture"; John Kreamer, Kansas City law firm, "Proper Conduct for Management in Labor Negotiations"; Ed Demler, Demler Farms, Anaheim, Cal., and Henry Hansen, Hansen's Leghorn City, Puyallup, Wash., "Multiplication and Distribution Patterns Ahead"; and Carleton Green, Stanford Research Institute, "Gee Whiz . . . What'll They Think of Next?"

Also on Friday, a panel will discuss "The Monkey on Your Back." The two members of the panel will be Dr. Fred Schultz, consultant for Colonial Poultry Farms, Pleasant Hill, Mo., and Nicholas Turkey Farms, Sonoma, Cal., and Richard Hanson, J. A. Hanson & Son, Corvallis, Ore.

Dr. R. E. Omohundro, assistant director, eradication branch, U.S. Department of Agriculture, will discuss "Proposed Regulations on Interstate Shipments of Chicks, Poults and Hatching Eggs," on Saturday morning, Dec. 3.

Also appearing on Saturday will be Malcolm Macurda and J. J. McKeand, The McKeand Co., Los Angeles, Cal., in a discussion of management and "The Engineering of Agreement."

The APHF meeting will be held at the Disneyland Hotel in Anaheim.

Personnel Changes Made at Midwest Bag

DES MOINES—A promotion and an appointment at Midwest Bag Co. here were announced this week by Harry Pomerantz, president.

Dan Masters was named sales manager of Midwest and its Rocky Mountain Bag Co. division, Denver.

Pat O'Brien has joined the firm as plant coordinator.

Mr. Masters, with Midwest for 20 years, will be in charge of all sales territories and will supervise sales for all national accounts.

In his new post, Mr. O'Brien will be in charge of all production and traffic operators. He has a background of some 20 years experience in the materials handling field. Prior to joining Midwest, he was vice president in charge of terminal operations for General Expressways, Chicago.

Midwest's general offices are located at 1401 Thomas Beck Road. Branches are located in Minneapolis, Kansas City, Denver and Champagne-Urbana.

Chicago Feed Club to Hear Archery Expert

CHICAGO — Arnold Henderlong, archery expert, will be the featured speaker at a meeting of the Chicago Feed Club, Friday, Nov. 18, in the Sportsman Room of the Illinois Athletic Club at 112 S. Michigan Ave.

Mr. Henderlong, an expert in the field of archery, will discuss the sport of archery and show movies of his many hunting trips.

There will be a cocktail hour at 6 p.m. and dinner at 7.

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PRODUCTION SCHOOL—Here are pictures taken at the first Southeastern Feed Production School, held at the University of Georgia. In the first photo are several Alabama men who attended the event—left to right, A. D. Gerald and Tom Hester, Cosby-Hodges Milling Co., Birmingham; Loyd L. Layton, T. M. Tribble and Dorris Rochelle of Alabama Flour Mills, Decatur. In the second photo are Lamont Nuckolls, Dalton (Ga.) Poultry; Charles Henderson, Henderson Feed & Coal Co., Cohutta, Ga., and J. C. McAllister, Whitfield Farmers Co-op, Dalton, Ga. In the third picture are two of the program participants, Lloyd Larson, Feed Production School, Inc., Kansas City, a co-sponsor of the school, and J. J. Milunas, Food and Drug Administration, Atlanta.

S.E. Feed Men Examine Ways To Improve Mill Efficiency

By ROGER BERGLUND
Feedstuffs Managing Editor

ATHENS, GA.—Feed men from throughout the Southeast took a close look at ways to improve mill operational efficiency as well as their products at the first Southeastern Feed Production School at the University of Georgia.

The school—held under the joint sponsorship of the Southeastern Poultry & Egg Assn., Feed Production School, Inc., and the university—covered subjects ranging from materials handling to creative thinking.

(A summary of reports on quality control, FDA compliance and similar topics appeared in the Nov. 5 issue of Feedstuffs. Discussions of ways of increasing efficiency, reducing costs and improving management are reviewed here. A story on industry trends appears on page 30.)

The three-day sessions at the Georgia Center for Continuing Education was opened by Dean James E. Gates of the University of Georgia, who told the mill operators that in today's fast changing business world, they must be willing to seek out new ideas and to use them. Because a thing worked in the past, he said, doesn't mean that it will be good enough today.

In this climate of move ahead or get left behind, students at the school heard suggestions on techniques of analyzing their operations and reducing costs, on materials handling and on other major topics. The speakers were experts from industry and the college.

Following are summaries of some of the talks:

MATERIALS HANDLING — The feed plant operator must be constantly reevaluating his materials handling operations, declared Eric Carlson of the Ralston Purina Co., St. Louis. Each individual situation must be analyzed, and it should be recognized that there will be changes over time. Each time an evaluation is made, one should consider the investment and other aspects and go through a complete analysis.

Mr. Carlson discussed bulk and sack handling from the standpoints of both finished feeds and processing operations.

In general, he said, the best system involves bulk and continuous handling within processing operations and unit handling of some type between operations.

The principal aim should be work simplification — eliminating all handling possible, simplifying, combining and standardizing operations. Mr. Carlson cautioned that some persons may forget this in going from sack to bulk handling; the whole pattern should be reasoned out. Sometimes when operations are mechanized, one may increase rather than decrease the number of times something is handled. In some cases, with mixed feeds, a product may hold up better in bags than in bulk, Mr. Carlson said, and this should be considered. In general, he observed, there is a need to simplify bulk handling systems.

He mentioned that gravity is the most economical way to move materials, and the feed man should work on this angle. Also, straight line flow is the most economical, and one should not just add facilities but should simplify so far as possible.

In many cases, he said, materials could go directly from a bucket elevator through a distributor and into bins, rather than using a conveyor. This, he added, would reduce handling and contamination problems.

Mr. Carlson also said that a square bin gives the greatest area with the lowest cost. Often, he said, square bins with common walls can be used.

He pointed out in discussing processing operations that going from sack to bulk reduces labor. In general, there is a saving of 0.08 manhour per ton for each 5% increase in bulk handling. Going from 100% sacked materials to 100% bulk offers a potential labor saving of 0.8 manhour per ton. However, he added, one must consider capital cost and interest and subtract that from the potential saving. When production falls off in mills after considerable investment has been made in facilities, there is a serious pinch because the capital cost is still there.

Mr. Carlson presented a formula for economical evaluation of materials handling operations. Total capital (fixed and operating) dollars required should be divided by production (rate of output per hour times true hours operated) to arrive at capital dollars required per unit of production.

Mr. Carlson went on to predict further improvements in both sack and bulk handling. He said that, for one thing, there may be new designs in containers and new systems. Also, he mentioned that work is being done on pallet-less loads of feed bags, using a bag handling clamp on a forklift truck. He said, too, that he felt that sacks of current size would be re-

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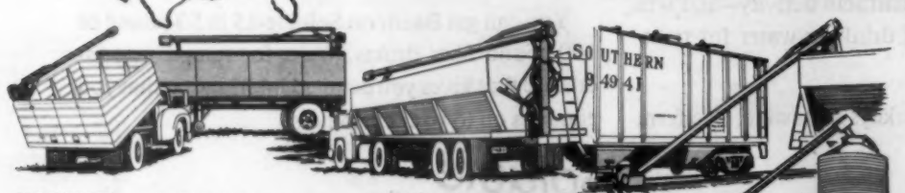

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placed in some cases by larger units of product.

TAKING A HARD LOOK AT COST STANDARDS — The importance of having and using mill cost standards was pointed out by J. W. Sloan, Cosby-Hodges Milling Co., Birmingham, Ala. He defined cost standards as a means of measuring the efficiency of a given operation against calculated optimum efficiency of any specific operation or machinery. The best standard is man-hours per ton or tons per man-hour.

He noted that the best and only reference with cost standards is the proceedings of the 1956 Feed Production School in Kansas City, which included a study and report on cost standards for various sizes of mill operations. (This book is available from Feed Production School, Inc., 20 W. 9th St., Kansas City 5, Mo.)

Using material from the Production School, Mr. Sloan explained how one may analyze the labor requirements in his own operations. This includes the various cost centers in a mill, such as ingredient receiving, grain processing, mixing, pelleting, etc. Then one may compare his own plant's operations with the established standards.

In his presentation at Athens, Mr. Sloan outlined data for a plant producing 100 tons of feed per eight-hour day.

REDUCING COSTS THROUGH WORK SAMPLING — Workers are only as efficient as management plans for them to be, and the question is whether management is planning and directing operations well enough so that waste can be eliminated to the greatest extent possible. Most problems in regard to productivity of men or machines are beyond workers' control and are management responsibilities.

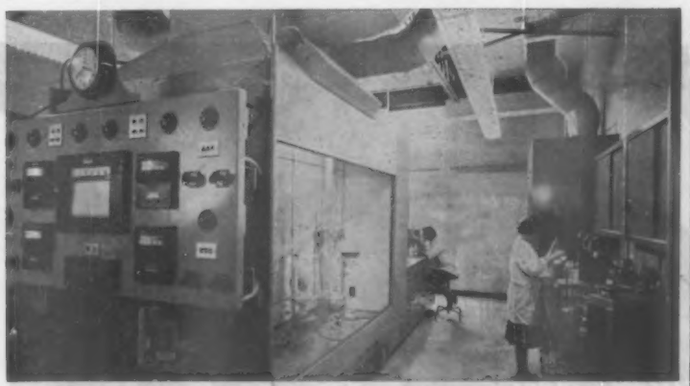
These points were made by Richard Muther, consulting industrial engineer, Kansas City, in explaining a technique called work sampling. It is a simple and highly practiced way of getting facts which can serve as a basis for analyzing and deciding on ways to reduce costs—which is necessary in today's profit squeeze.

In eliminating waste, it is necessary to (1) uncover areas of waste and its causes, (2) correct the causes of waste, (3) develop standards of performance against which one can compare actual current operations, so that they can be adjusted and kept within good-practice controls. But to do this, it is necessary to have facts such as are determined through work sampling.

Mr. Muther explained that work sampling rests on the theory that if we observe a person, or thing, enough times and keep track of what the person is doing each time we observe him, we can calculate the amount (or percentage) of time he spends on each of various tasks he is supposed to perform.

The procedure of work sampling boils down to this: (1) Set up a tally, recording or observation sheet. (2) Make a series of observations of the people or things whose activity you wish to record. (3) Record for each observation what is being done at the time of observation. (4) Repeat the series of observations and recordings until enough are taken to give results to the accuracy sought. (5) Calculate the total number of observations for each activity and establish the percentage of each activity to the total. For example, if one takes 1,000

SOUTHEASTERN SCHOOL—Some of the program participants and "students" at the Southeastern Feed Production School at the University of Georgia are pictured here. In the first photo, left to right, are Fred Moore, Fred Moore Co., Morton, Miss.; Dr. J. Clyde Driggers, University of Georgia, a speaker, and L. M. Williams, McCarty Enterprises, Magee, Miss. The second picture is one view of a work sampling demonstration conducted by Richard Muther of Richard Muther & Associates, Kansas City. This was designed to show the work sampling technique of analyzing for waste in mill operations and developing work standards. In the third picture are Eric Carlson, Ralston Purina Co., St. Louis, one of the speakers; Harold E. Ford, Southeastern Poultry & Egg Assn., a co-sponsor of the school, and Bob Barrett, Ralston Purina Co., Guntersville, Ala.



COMPOUNDS EVALUATED—In laboratories such as this, new compounds, unknown to science, are synthesized by Dow Chemical Co. scientists and technicians for evaluation as agricultural products. When a new material shows promise of usefulness, all chemical relatives of the new compound are developed so that the best compound for the purpose can be found.

Old Research Concept Used in New Dow Lab

MIDLAND, MICH. — An agricultural chemicals research center—providing greatly expanded research and testing facilities and dedicated here recently by the Dow Chemical Co.—is new to the company which built it, new to the industries Dow serves and new to the public. But the concept under which the research center will be operated is an old one. It's one that Dow has used for many years as a guide in developing products for agricultural and industrial use.

RESIDUE TRACER—This apparatus in a Dow Chemical Co. laboratory is used to break chemical substances into component parts. It is of great value in tracing minute chemical residues in various materials.

Dow scientists noted here at the opening and dedication of the company's new agricultural chemicals research center that each marketed product travels a long trail of testing from discovery to consumer use.

"By the time a new product reaches the market it has survived some four to six years of critical testing calculated to make the product fail immediately if it ever will fail," observers were told during a tour of the company's research facilities here. "Those products reaching the market are survivors of thousands that did not make the grade."

Research Sequence

In addition to being shown the new two-level structure which provides nearly 60,000 sq. ft. of lab and office space; greenhouse and service buildings, and animal and poultry research facilities, visitors were shown the complete sequence of research operations that confronts any new chemical compound before it is offered for use in agriculture.

Said a Dow guide: "The process starts with the synthesis of new chemical compounds previously unknown to science and continues through years of performance and safety testing investigating every aspect of use of the material.

"Special emphasis is given to toxicological and analytical research assuring that the new product does not pose a health hazard or leave a harmful residue in treated foodstuffs."

It was evident during the tour—which Dow officials said was the result of "our research personnel cooperating to collapse years of research into a single day's program"—that the company's scientists were trying harder to find something wrong with the products they were developing and testing than they were to get them into production.

These scientists explained that many compounds which come from the discovery labs fail to meet one or more tests up the ladder of investigation and are stopped in their tracks. Products which pass all the laboratory tests within the Dow organization are again tested under practical applications.

Five-Fold Purpose

Dow's new center here will serve a five-fold purpose in the company's agricultural research. It will be:

—a collecting center for information necessary to register a product with federal and state agencies.

—a location for basic research operations in the general field of agricultural chemicals and on problems of an agricultural nature.

—a location for applied research on specific problems.

—a laboratory for the investigation of metabolism of agricultural chemical products, the identification of residues in foodstuffs and the analysis of residues.

—headquarters for a nationwide research program which includes the Midland center; the Texas division laboratory at Lake Jackson, Texas; the western division laboratory at Seal Beach, Cal., and the field research stations in Winter Park, Fla.; Greenville, Miss., and Sacramento, Cal.

Since the early days of Dow's interest in agricultural chemicals (Dow produced its first agricultural product in 1907), the company has developed a wide variety of new products in such diverse fields as weed killers, insecticides, soil fumigants, animal health products and feed supplements.

The function of the animal science section of Dow's agricultural chemical research is to find new chemicals and new uses for old chemicals in animal production and related fields. Continued specific research has been directed toward nutrition and disease control in poultry and livestock production.

Dow officials reported that screening tests have been operated for several years in a search for new products to control protozoan diseases of poultry and internal parasites of poultry, hogs, sheep and cattle and dogs.

The laboratory at Lake Jackson, Texas, for example, is concerned with systemic insecticides and testing for effectiveness against biting or blood feeding flies that attack livestock.

Among other activities in the animal field, feeding tests involve the use of feed additives which affect growth rate.

FEEDING TRIAL — This laboratory rat in a metabolism cage is undergoing a feeding trial in the biomechanisms section of the Dow agricultural chemical research center at Midland, Mich. Feed given the rat includes an experimental compound "labeled" with a radioisotope tracer. With this apparatus, movement of the compound through the animal's system can be followed.

observations of a machine and finds that on 600 it is productively busy, it is fairly safe to assume that machine utilization is 60%.

However, it is the other 400 observations that are more important. They will show causes of idleness, such as downtime for a repair if a machine is involved. Observations of workers also may be made.

Mr. Muther had the men at the school run through a series of observations of a feed warehousing operation to determine the activities of a number of workers. This showed how much time was productive and causes of waste, such as waiting for another operation, change-over, worker out of area, no car or truck for loading, job reassignment, machine failure, etc.

Mr. Muther cautioned the feed men on some points in the procedure. For example, readings must be taken at the instant they should be taken; they must be taken at representative or random times; they must be taken in enough quantity to give accuracy in making conclusions. Generally, 500 is the minimum for any conclusions to be drawn.

COASTAL BERMUDAGRASS PELLETS — The greatest potential for use of pelleted Bermudagrass in the Southeast appears to be in cattle feeding, and it is expected that in the future extensive use will be found in ground and pelleted cattle rations containing field-cured Bermudagrass and supplement.

This was noted by J. L. Butler, agricultural engineer with USDA at Tifton, Ga.

Dehydrated and pelleted Coastal Bermudagrass is now being produced commercially, but it is expected that there will be more field-curing using new methods which reduce the drying time and improve quality. Then, for feeding of beef cattle, said Mr. Butler, the hay might be taken to a mill, ground, mixed with other ingredients and then pelleted.

Mr. Butler first discussed dehydrating and pelleting the grass. The product which is produced is used in poultry and other feeds. Several plants which pellet and dehydrate have been installed in the past couple of years. Although they have been successful to varying degrees, Mr. Butler said, production costs are quite high.

He described a typical operation. The Coastal Bermudagrass is cut and chopped and taken to the dehydrator. After dehydrating, it is ground through a 1/16 in. screen. An antioxidant may be added at this point. The material then goes to a pellet mill and cooler. After cooling, the pellets have about 11% moisture and are ready for storage.

"Although the product from such a mill is high quality," said Mr. Butler, "it cannot command an unlimited price. Since the cost of such an installation is in the neighborhood of $200,000, these plants usually operate on a 24-hour basis throughout the season."

In considering ways to reduce costs, Mr. Butler raised the question of whether fine grinding is necessary. Discussing pelleting, he said that in all-Bermudagrass pellets, the output is quite low. And he speculated whether methods could be changed in some way.

He said it is doubtful whether gains produced by Coastal Bermudagrass pellets alone would pay for the present costs of dehydrating and pelleting, but there appears to be promise in use of these pellets in a high-roughage, low-concentrate pellet for fattening cattle.

Mr. Butler said an "ideal situation" would be low-cost production of a good pellet or wafer in the field, and he noted that considerable work on this is being done with test machines.

The magnitude of losses in field curing is not known, he continued, but it is thought that a short drying time (such as by crushing and putting a vapor barrier between the grass and the soil) would help.

FEED PRODUCTION SCHOOL— Lloyd Larson, president of Feed Production School, Inc., Kansas City, told of the school which has been held annually for the industry nationally. The Southeastern school, he noted, was the first regional event which his organization has helped to sponsor. And he said that this type of event is important in order to provide more service to more persons in the industry. "We need to know a lot more about more things in feed production," he observed.

APPLIED IMAGINATION AND CREATIVE THINKING — Creative thinking may be defined as an attempt to bring into existence a new idea, or concept, which has not existed before, or at least not for the person who is doing the thinking.

This definition was given by Dr. James Gates, dean of the College of Business Administration at Georgia, who presented a detailed discussion of creative thinking, the need to encourage it and the examples of its use and application in successful businesses. Some of the leading business concerns in the country now have creative engineering programs to improve the creative thinking of their personnel. This has resulted in new products or new applications or new services or new methods which have been of vast importance in the business world.

In one major company, said Dr. Gates, the value of managers is measured to a considerable extent by their capacity for innovation and change.

"A new climate, where ideas are welcome," he said, "may well be the most necessary change in existing procedures, if creative thinking is to flourish and become effective at all levels, including conferences."

INTRA-COMPANY COMMUNICATION—Dr. Leighton M. Ballew of the University of Georgia outlined some basic principles in human relations and then pointed out certain factors of importance in communicating with others. These include such

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BHT
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For better poultry pigmentation.

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Effective dog food deodorant.

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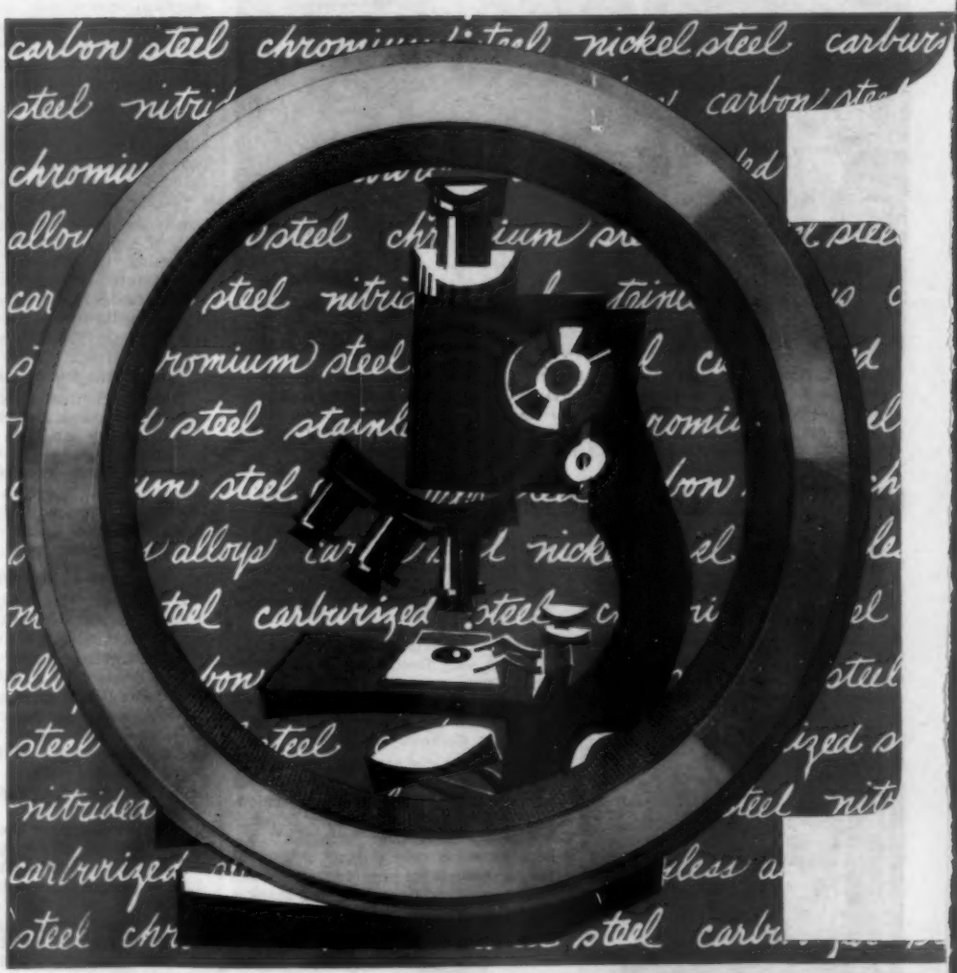

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things as straight thinking on the part of the speaker and listener, observation and listening. One basic principle is the ability to look at the world through the eyes of the other person, to be able to look the way he is looking and see a situation from his viewpoint.

EMPATHETIC EVALUATION—A movie on and discussion of empathetic evaluation were presented by Dr. J. Clyde Driggers of the Georgia poultry department.

The importance of correct judgment of persons in human relations was brought out.

One should have the ability to empathize properly with another person—the ability to project one's self into the other person's skin.

DISTRICT MANAGER

RALEIGH, N.C. — Charles H. Brantley has been named district manager for Wyeth Laboratories and will work out of Raleigh. He has been with Wyeth since 1950 and is a graduate of Wake Forest College.

$1,500 Pfizer Awards To Four Home Demonstration Agents

CHICAGO — Four outstanding home demonstration agents, one from each of the extension service regions, received $1,500 fellowships from the Agricultural Division, Chas. Pfizer & Co., Inc.

The awards were made at the 26th annual meeting of the National Home Demonstration Agents' Association here.

The fellowship winners for 1960, are:

Western region—Stella McKinstry, home demonstration agent in Pinedale, Sublette County, Wyoming, with 14 years of experience in extension. Miss McKinstry has helped to increase homemaker interest in the extension program during her 9 years as home agent in Sublette County. She is a former president of the Wyoming Home Demonstration Agents Assn.

Central region—Loretta M. Zastrow, past president of the Wisconsin Home Demonstration Agents Assn., with 10 years experience as a home demonstration agent in Wisconsin Rapids, Wood County, Wisconsin.

Southern region—Geneva Marshall, home demonstration agent in Centre, Cherokee County, Alabama, and presently vice president of the Alabama Home Demonstration Agents Assn.

Eastern region—Elizabeth B. Skeats, associate home demonstration agent in Danbury, Fairfield County, Connecticut. Miss Skeats joined the Connecticut extension staff in 1958.

The winners were guests of Pfizer at the convention.

Sixth Consecutive Year

This is the sixth consecutive year that the 111-year-old drug and chemical firm has presented the fellowships. In accepting the award, each home agent agrees to use the fund to further her professional training in extension work through graduate study, travel or both.

The fellowship program was developed with cooperation of the Federal Extension Service. Its purpose is to encourage further professional study and to recognize outstanding contributions made by home demonstration agents on behalf of America's farm families.

Each state may name one applicant each year; the final selection is made by a national committee of extension workers from both state and federal offices.

In presenting awards to the 1959 winners, Herbert L. Schaller, manager of Pfizer agricultural public relations, said:

"It was interesting to note the unique methods used by each of the award winners to stress the contributions good nutrition can make in farm family living—both in terms of budget economy and healthful living. This serves as one illustration of the conscious effort home demonstration agents make to help farm families improve their standard of living.

"Home demonstration agents serve not only farm families, but the nation as well. It is our hope that these Pfizer awards will serve to express in a small way our gratitude to the thousands of HDA's for their selfless service to the rural and urban families of America."

Hubbard Names Sales Head for New Division

MANKATO, MINN. — Hubbard Milling Co. has named Norman E. Dewes as sales manager of the firm's newly-created Omaha - Sioux City division, Quentin J. Marsh, vice president and manager of the company's feed division announced. Mr. Dewes was consultant to the feed sales department of Hubbard Milling Co. for the past year. Mr. Dewes spent 15 years with the Larrowe division of General Mills in Detroit, three years in the advertising department and 12 years as assistant sales manager. He was transferred to Minneapolis in 1949 as assistant director of formula feeds and in 1953 became sales manager of the North Central division.

Norman Dewes

He retired from General Mills in 1957 to become president of Pro-Vid-All Mills, Litchfield, Minn. He sold his interest in Pro-Vid-All and joined Hubbard as consultant Sept. 1, 1959.

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Ever since our pioneer launching of the vertical ring die machine, our research engineers and metallurgists have been studying new die designs and materials. Precision dies have been produced in carbon, chromium and nickel steels; carburized and nitrided steels; stainless steel and other special alloys. Recently, we developed a new die material (S-1) for use where corrosion is shortening die life. In test installations it has more than doubled die life.

Sprout-Waldron leadership in pellet mill design has continued unbroken through the years. *Among the many firsts attributed to our creative engineering are: the concept of vertical ring and driven dies, the scientific introduction of steam at high temperatures, the use of simple V-belt drives, the swinghead die casing, the air handling of pellets, the use of revolving die covers and feed directing flights, Ruftex tungsten carbide roll construction, stainless steel feeder conditioners, cooling columns with stainless steel interiors, and the design of auxiliary cooling, crumbling and grading equipment matched to the capacity of the pellet mill.*

In test after test, Sprout-Waldron pellet mills have out-produced in tons per horsepower every competitive mill on the market! Whether your needs be for the Junior, the Ace® or the Super Ace® you can rely on the Sprout-Waldron mill for the latest in engineering design. This means uniform high quality, maximum production rates and minimum operating costs. For details request Bulletin 165-A (Junior), Bulletin 100-A (Ace) and Bulletin 201 (Super Ace).

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Gerald McKune, Spring Green, Wis., who plans to keep 1,200 breeders from this year's 8,000 birds, says: "I wouldn't raise breeders without nf-180."

A turkey feeding program that gets down to business

SPECIAL REPORT ON nf-180 PROTECTIVE FEEDING FOR BREEDERS

This nf-180 protective feeding program can help your customers keep breeder flock performance high. Here's how: When your customers select their breeders, recommend a ration containing 2-4 lbs. nf-180 (100-200 grams furazolidone) per ton of total feed. (In areas where paracolon and paratyphoid are serious problems, the higher level is recommended.) After 2 weeks, have them switch to a feed containing 1 lb. nf-180 (50 grams furazolidone), and recommend they keep breeders on this level through the laying season. In case of severe stress, have them put birds back on 100-gram feed until the danger has passed.

The men on these two pages have found nf-180 gets right down to business in a breeder flock . . . promotes high livability and hatchability by preventing disease and stress-caused setbacks.

You'll find nf-180 protective feeding means business in extra feed sales and steady customers, too. Encourage your customers to try it. You'll both benefit by the good results.

nf-180 protective feeding works because nf-180 prevents and controls more turkey diseases than any other drug. It is effective against typhoid, pullorum, hexamitiasis, blackhead, paratyphoid, blue comb, quail disease, CRD (air sac complex), synovitis and paracolon. nf-180 keeps performance up through stress periods. It frees hens from constant disease drag. Reduces the chance of egg-transmitted disease.

Here, in tape-recorded interviews, is what users themselves say about nf-180 protective feeding:

Gerald McKune, Spring Green, Wisconsin

A 25-year veteran at raising turkeys, Gerald McKune keeps about 1,200 breeders every fall. He first tried nf-180 5 years ago. Today he feeds it at a continuous low level (50 grams furazolidone per ton of feed).

"I particularly like nf-180 for my breeders," says McKune, who also feeds nf-180 to his growing birds.

"I guess it's because there are more ways to see results with the breeders. I get better livability, and better hatchability. You get a sturdier poult, too. I definitely would not feed breeders without nf-180!"

Don and Jerry Wharton, Sacramento, Calif.

Don and Jerry Wharton, along with their father and brother Jack, operate the Sunshine Hatchery in Sacramento. Handling eggs from 35,000 breeder hens, they hatch about 1,300,000 poults a year.

"We first used nf-180 several years ago after 4 different poult deliveries broke with paracolon," the Whartons report. "nf-180 was so effective we've used it ever since. We give our breeder men the option of using the 'week-a-month' plan or 1 lb. of nf-180 per ton continuously.

"We've found nf-180 really helps as far as rotten eggs and blow-ups in the incubators go. I'll tell you ... we wouldn't be without nf-180. Compared to what a fellow could lose, the cost of nf-180 is nil."

Hatcherymen Don and Jerry Wharton recommend nf-180 to their breeder flock owners. They consider nf-180 "low-cost insurance."

Paul Bandel, Rochester, Minnesota

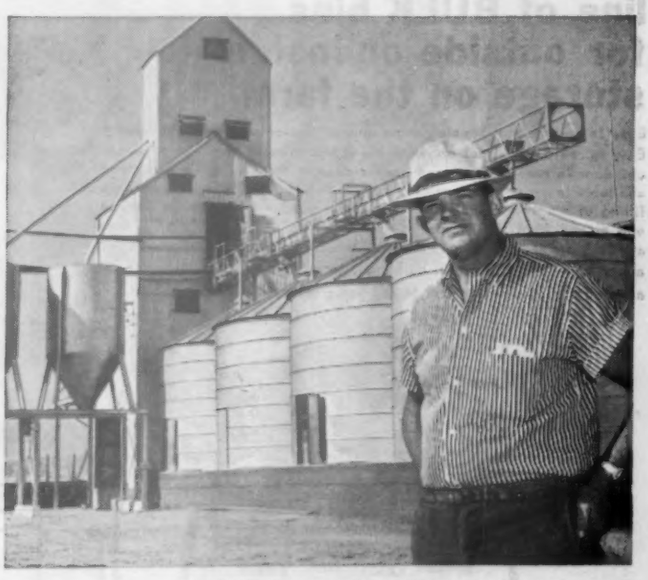
Paul Bandel has been in the turkey business for 31 years. In addition to growing out and dressing birds, he keeps 2,000 breeders every year.

"We start feeding nf-180 during the holding period, and continue all through the laying season," he says. "We feel assured of better hatches and better poults.

"We feel more relaxed if we're using nf-180. We have far fewer problems and worries. Of course, we still have some problems. In fact, sometimes we really do some sweatin', because even a 2,000-breeder hen flock takes a lot of money to run through. But with nf-180, you feel less helpless. You feel you can work things out.

"I'd hate to raise turkeys without nf-180. It takes care of a number of problems, not just one specific problem like some of the other drugs. *The only reason I spend money for nf-180 is that I think it makes me good money in return.*"

Paul Bandel has "far fewer problems and worries" ... more hatching eggs and healthier poults ... with nf-180 in his breeder mash.



Elwood Swanson, who feeds nf-180 to 12,000 to 16,000 breeders and 150,000 growing birds, says, "nf-180 works! Hatchability is tremendous."

Elwood Swanson, Turlock, California

Owner of the Westlock Turkey Breeding Farms, Elwood Swanson is in the turkey-breeding business in a big way. He sells eggs from 12,000 to 16,000 breeders a year in all areas of the U. S. and Canada.

"We're on a very rigid nf-180 program for our breeders," Swanson says. "We also start all our poults on nf-180 to avoid disease threats and stress problems."

Asked why, Swanson replied, "nf-180 works! It's as simple as that. Our hatchability has been tremendous. And on hatchery-run poults, our mortality is never over 3%. nf-180 is doing a real good job for us."

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Annual Swine Research Day

South Dakota Researchers Tell How Antibiotics Can Affect Gain

BROOKINGS, S.D. — "Antibiotics to supplement rations for growing swine continue to provide more growth than rations without antibiotics," said Dr. Richard Wahlstrom, department of animal husbandry at South Dakota State College, during the fourth annual Swine Research Field Day held here last week.

Speaking to a large crowd attending the swine day, Dr. Wahlstrom cited two experiments conducted at South Dakota:

Experiment I—during the initial 24-day feeding period, pigs fed each of the antibiotics or antibiotic combinations gained considerably faster than the control pigs. Pigs fed erythromycin gained 0.16 lb. per day faster, while other antibiotic-fed pigs gained from 0.29 to 0.35 lb. per day faster than the controls. Feed efficiency was improved about 0.2 to 11%.

A smiliar response to antibiotic feeding was observed from 60 to 110 lb. Antibiotic-fed pigs gained from 0.30 to 0.42 lb. per day more than the controls. All antibiotics improved feed efficiency. During the finishing period —110 to 200 lb.—the control pigs gained at about the same rate as did those pigs fed antibiotics.

Results of the entire feeding period showed an improvement in rate of gain when each of the antibiotics was fed. Tylosin, streptomycin-penicillin-sulfaquinoxaline mixture, and penicillin-streptomycin improved gains about 13%. Chlortetracycline and erythromycin improved gains 7 to 8%. Pigs fed the "newer" antibiotics gained slightly faster than those fed the "older" antibiotics in this trial.

Experiment II—Pigs fed antibiotics and arsanilic acid gained faster than the controls by 4 to 15% in this trial. The trend for faster growth was established early in the trial. Tylosin and chlortetracycline improved gains 15 and 13%, respectively. Feed consumption was greater with the antibiotics and arsanilic acid than the controls. The control and arsanilic acid lots had the best feed efficiency by about 3 to 6%.

Dr. Wahlstrom also described an experiment studying the effect of erythromycin included in a protein supplement, ground corn or in a complete mixed ration.

Erythromycin was added at a level of 25 and 50 gm. per ton to each protein supplement, to the ground corn and to the mixed ration. Here are some findings:

—Protein supplements with either 25 or 50 gm. of erythromycin were consumed in very small amounts during the first week.

—When the antibiotic was included in ground corn, corn consumption was markedly reduced and protein supplement consumption increased during the first week. By the second week, corn consumption had increased to equal that of the control lot, but supplement consumption remained somewhat excessive throughout the trial.

—Feed consumption was reduced only slightly and only during the first week when complete mixed rations were fed.

—Daily gain was directly affected by protein supplement consumption during the first few weeks.

—All lots of pigs fed erythromycin at 25 gm. per ton gained faster than the pigs fed similar rations without erythromycin.

—A level of 50 gm. of erythromycin in the supplement reduced gains slightly whereas this same level of the antibiotic in the ground corn or mixed ration increased gains.

—Feed efficiency was variable. Most efficient gains were made by the pigs fed the complete mixed ration containing 50 gm. of erythromycin per ton.

OAT RATIONS WITH SUPPLEMENTAL LYSINE—The addition of lysine, an essential amino acid, to oat and oat-corn rations, without protein supplement tended to improve growth rates of growing-finishing pigs in South Dakota state tests, according to a Swine Day report presented by researcher R. W. Seerley.

Three trials were conducted to determine the effects of lysine supplementation of oat and oat-corn rations, and to compare the performance of these rations to those containing soybean meal.

In the first trial, an increase in both rate of gain and feed efficiency occurred when lysine was added to an oat ration.

Supplementation of an oat ration with 0.1% lysine increased the rate of gain more than did the higher level of lysine in a second test. These gains were about equal to those of the pigs fed the 10% soybean meal ration.

In trial three, the pigs fed the oats-corn, soybean meal ration gained significantly faster and more efficiently than the other experimental treatments. Supplemental lysine improved oat and oats-corn rations in this trial. The oat ration was improved 5% by the addition of 0.1% lysine, and the oats-corn ration was improved 42 and 65% by 0.1% and 0.2% lysine supplements, respectively.

"An interesting observation," Mr. Seerley pointed out, "was that pigs in all lots consumed approximately the same amount of feed daily, but the rations with poor quality protein would not support good growth.

"This clearly points out that rations must be balanced with adequate

(Turn to SOUTH DAKOTA, page 59)

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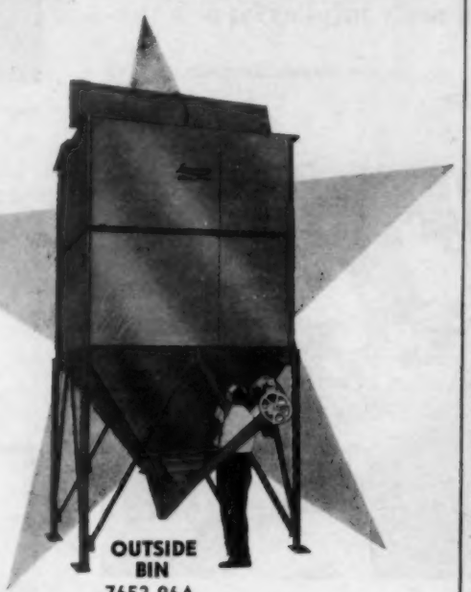
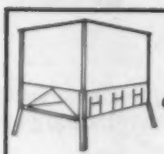


OUTSIDE BIN
7652-96A
Two tiers of sides (8-ton)
7652-48A
One tier of side (5-ton)

7736-36 (4-ton) height 7' 6"
Side doors and bottom draw gates complete emptying of any type feed including mash of high fat or high fiber content.

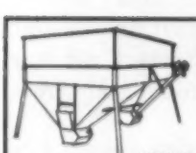


INSIDE BIN
7618-48-6D 6 door (4 ton) height 7' 9"
Three doors on side make for easy cleanout.

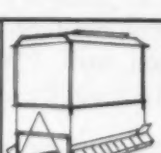
INSIDE BIN
7424-42 (2½ ton) height 7' 2"
5424-24 (1¼ ton) height 5' 6"
Designed for placing against wall or in corners.

INSIDE BIN
7540-36Q (3¼ ton) height 9' 2"
7540-48Q (4 ton) height 10' 2"
7640-36Q (4 ton) height 9' 2"
7640-48Q (5 ton) height 10' 2"

INSIDE BIN
7540-36A (3¼ ton) height 8' 0"
7540-48A (4 ton) height 9' 0"
Large access doors and pitch of base make this bin ideal for all feeds.



INSIDE BIN
10740-24 (5¼ ton) height 6' 3"
10740-36 (6½ ton) height 7' 3"
10740-48 (8 ton) height 8' 3"



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BULK STATION—Standing in front of seven storage tanks (Butler) of bulk feed station is a 6-ton bulk truck (Sudenga) used for farm delivery. The station, operated by Wieston (Iowa) Grain Co. at Manson, Iowa, stores feed for sale directly to feeders and for pickup by Wayne Feed dealers. Base of new grain elevator is shown at right.

Bulk Feed Station in Iowa Serves Feeders and Dealers

By Al P. Nelson
Feedstuffs Special Writer

A bulk feed station at Manson, Iowa, leads a double life.

● Feed is sold from the station by Wieston (Iowa) Grain Co. direct to hog and cattle feeders of the Manson and Wieston, Iowa, areas.

● Other Wayne feed dealers located outside the Manson and Wieston trade territory come to the bulk station to pick up loads of concentrate and supplement for their own use.

"This arrangement works out very well," says Harold Zook, manager of the bulk station. "Through the station we can serve our local trade well, and when other dealers get their feed at the bulk station it means a fast turnover of stock."

Dealers save on delivery charges to their home areas, but they do pay transportation from the Wayne plant at Mason City to Manson, a 105-mile trip.

The bulk station has seven Butler storage tanks, each with a capacity of 14 tons. These tanks hold poultry concentrate, cattle concentrate, hog supplement, a complete hog feed and 16% pig starter.

Receiving equipment includes a 43-ft. Universal elevator and a track-side dump and auger. Feed is shipped to the station from Mason City in trucks and in railroad box cars.

"This station has been operating for about a year," Mr. Zook notes, "and so far shrinkage has been about nil, according to our perpetual inventory. We have a 6-ton Sudenga bulk truck which we use to deliver bulk feed to customers over a 35-mile radius."

The bulk bins have no weighing device, but Mr. Zook and his assistants know how many pounds per second each bin delivers. They can estimate with reasonable accuracy the amount of feed unloaded into trucks. After filling, the trucks are weighed on a 50-ton Howe elevator scale and the customer receives a weigh ticket.

Nearly all of the hog feed sold by Wieston Grain Co., which operates an elevator at Wieston as well as the bulk feed station and an elevator at Manson, is pelleted. Many producers with 80-100 hogs buy 3-ton loads at a time, sometimes every week or 10 days.

The firm doesn't have a custom mill yet, but Mr. Zook says one may be installed soon.

The new elevator at Manson, which has a grain storage capacity of 180,000 bu., has a Roskamp grain roller, and it's kept busy rolling oats and corn for cattle and sheep feeders.

Wieston Grain Co. is managed by the firm's secretary-treasurer, R. G. Glenn Swartzendruber.

NEW ELEVATOR — This structure, built recently at Manson, Iowa, by Wieston (Iowa) Grain Co., has a grain storage capacity of 180,000 bu. and is operated in conjunction with a bulk feed station. The station's bulk tanks stand at the right.

August Shipments of Canadian Feed Higher

OTTAWA — Shipments of primary or concentrated feeds and secondary or complete feeds in Canada were larger in August and smaller in the January-August period this year than last, while shipments of all "other" animal feeds were smaller in both periods.

August shipments were: Primary feeds, 34,991 tons (33,239 a year earlier); secondary feeds, 216,689 (196,670), and all "other" animal feeds, 43,315 (49,452). January-August totals: Primary feeds, 280,119 tons (304,471 a year ago); secondary feeds, 1,635,400 (1,727,400), and all "other" animal feeds, 350,575 (367,068).

R. D. MacDaniel Dies

INDIANAPOLIS — R. D. MacDaniel, 64, first vice president and secretary, Grain Dealers Mutual Insurance Co., died of a heart attack at his home here.

Mr. MacDaniel joined Grain Dealers Mutual in 1920 as an inspector in the mill and elevator department, and later became manager of the company's engineering and loss prevention department, a post that he held for 33 years. He was named vice president in 1942 and first vice president in 1953 and in 1959 was made secretary and elected to the board of directors.

Fed Cattle Prices Expected to Rise

URBANA, ILL.—Market indicators are pointing to an upward trend in fed cattle prices. Prof. L. H. Simerl, University of Illinois agricultural economist, says price lows for the season appear to have been passed. Now the outlook is for a better cattle market during the next few months.

Prof. Simerl considers the Oct. 1 report of cattle on feed (Feedstuffs, Oct. 29) as being very favorable to the cattle feeding business.

"The small increases in numbers of cattle on feed (an average of 1% for 26 major feeding states, comparing Oct. 1, 1959, with Oct. 1, 1960) and in expected marketings may be offset by reductions in average weights," he says. "A shortage of pork will continue to divert more of the consumer demand for meat to beef. But the restaurant trade is poor, dulling the demand for top cattle. . . . Business may improve a little after election day."

Prof. Simerl notes that the cattle-on-feed gain of 1% was less than the increase in population during the same 12-month period.

Western feeders, he observes, account for most of the cattle feeding expansion. Eleven western states reported 1,703,000 head Oct. 1—13% more than a year earlier. Twelve Corn Belt states reported 3,069,000 head—5% less than a year before.

"Most of the cutback in cattle feeding in the Corn Belt states was in Illinois and Nebraska," says Prof. Simerl. "Illinois feeders cut back 12% and Nebraska farmers cut back 10%. Iowa feeders were holding steady, feeding the same number this year as in 1959."

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Broiler Credit Volume Declines in Southland

ATLANTA — The decline in bank credit for broiler production, which began several months ago in the six-state area served by the Federal Reserve Bank of Atlanta, continued in September.

Also in a declining move from August to September was total broiler trade credit outstanding at selected feed manufacturing plants in the Sixth Federal Reserve District, which includes all or parts of Alabama, Florida, Georgia, Louisiana, Mississippi and Tennessee.

The Atlanta bank's research department reported recently that while credit outstanding at feed plants at the end of September was less than the outstandings of both a month earlier and a year earlier, trade credit outstanding directly with producers increased and year-to-year gains in direct-to-producer credit were "especially large."

Bank financing for broiler production in September remained at the low ebb which prevailed during most of 1960. New loans from banks for broiler production to feed dealers and direct to producers were sharply reduced in September. Repayments also declined. The net result, says the Atlanta bank, was a cutback in bank credit outstanding by the end of September.

To date, direct bank financing has not strongly supported the year-to-year expansion in broiler placements which has been occurring in the Sixth Federal Reserve District since February of this year.

Although broiler placements in five district states declined slightly from September to October, the total placed for production in October was larger than that a year earlier.

Farm prices for broilers in the district declined from 15.9¢ lb. in August to 15.3¢ lb. in September.

"A widening spread between collection ratios for producers and feed dealers," the bank observed, "indicated that feed manufacturers were carrying dealer accounts for longer periods than they carried their producer accounts."

Expect Near Record Supply of Soybeans

WASHINGTON—Soybean supplies for 1960-61 may be around 580-585 million bushels, just a shade under the record level for the previous two years, according to the U.S. Department of Agriculture.

USDA does not expect crushings for oil and meal to differ much from the 395 million bushels estimated for 1959-60. That level is just 5 million below the record level of the previous season.

This near record crushing was stimulated, according to USDA, by a record domestic disappearance of soybean oil, record export of soybean oil bolstered by large P.L. 480 shipments and large takings of soybean meal domestically and record exports of soybean meal.

USDA anticipates that the exports of soybeans will hold near the record 140 million bushels shipped during the last marketing year. It is expected that major importing areas such as western Europe and Japan will continue to need large imports of U.S. oilseeds and/or oilseed products.

U.S. soybeans are expected to continue to be priced competitively in the world markets which with the rising world population and a high level of economic activity is expected to contribute to the strong demand for soybeans in most parts of the world.

P. S. Brown Retires From Nopco Position

NEWARK, N.J. — Perc S. Brown, vice president of Nopco Chemical Co. at its Pacific Division headquarters in Richmond, Cal., was honored Nov. 4 at a testimonial dinner at the Don Hotel there, marking his retirement from the company after almost 30 years of service.

P. S. Brown

Nearly 100 Nopco employees were present, including George G. Stier, president; Ralph Wechsler, chairman of the board; G. Daniel Davis, vice chairman of the board, and Harry A. Batley, executive vice president, who came from the company's headquarters in Newark, N.J., to attend.

Mr. Brown has been vice president and director of the company since 1933, and since 1950 has headed its West Coast operations with headquarters at Richmond. In 1933 he joined Nopco (then National Oil Products Co.), and his organization, Brown-Jeklin & Co., became one of Nopco's subsidiaries.

Despite his retirement, Mr. Brown will continue to serve the company as a director.

EDWARD LEMBCKE DIES

PORTLAND—A long-time member of the northwest feed industry, Edward G. Lembcke, died here following a lengthy illness. Since 1948 he had operated Lembcke's Wood Shaving Co. Before entering business for himself, he was credited with the idea of organizing Concentrates, Inc., a Portland feed supply firm. He served as its manager from 1938 to 1948. Prior to that he had worked for H. J. Stoll & Sons and the former Harvest Milling Co.

Stocker, Feeder Cattle Shipments Down 9%

WASHINGTON—Stocker and feeder cattle and calves shipped into eight selected north central states during September, 1960, totaled 783,000 head, down 9% from the 856,000 head shipped in September, 1959, reported the U.S. Department of Agriculture.

Of the total cattle and calves received in these states during the month, 289,000 head moved through public stockyards and 494,000 head were received direct. The number of cattle and calves shipped during the period July-September amounted to about 1.4 million head compared with 1.6 million head for the same period last year—a decrease of 13%.

Shipments of stocker and feeder sheep and lambs into these eight north central states in September amounted to 722,000 head, compared with 554,000 head during September a year earlier—a 30% increase.

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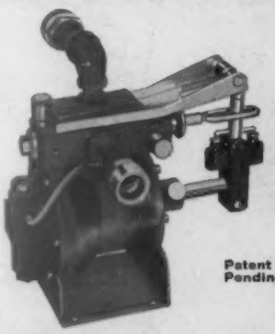

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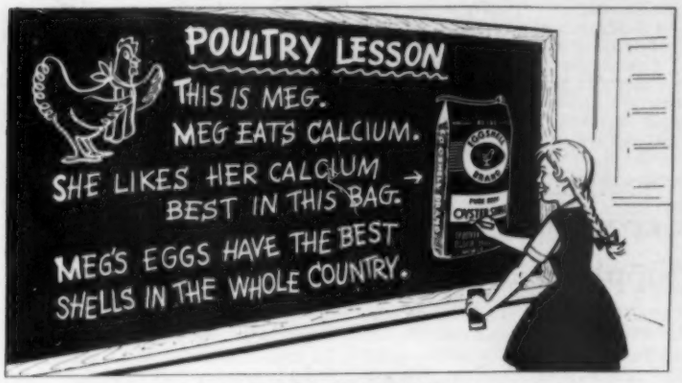
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Urges More Accuracy In Stockmen's Reports

BOISE, IDAHO—A "puzzling" discrepancy of several million cattle revealed in a comparison of preliminary census reports has resulted in a plea to stockmen to be more conscientious in aiding federal statisticians in compiling annual estimates.

The "overestimation" was discussed here Nov. 1 by Lyle Liggett, director of public relations, American National Cattlemen's Assn., Denver, Colo., during a breakfast meeting of the Idaho Cattlemen's Assn.

Mr. Liggett said that an analysis of the first 31 state reports of the livestock census made in late 1959 indicated there were 4.3 million fewer cattle on hand in those states than was reported in official government estimates of cattle numbers on hand in the same states on Jan. 1, 1960. "This is nearly a 7% error on about 60% of the nation's cattle," he said.

"If subsequent reports from the other 17 continental states follow the same pattern, the national cattle herd will be revealed as considerably smaller than we were led to believe through annual government estimates," he said. "This is reassuring news for ranchers and feeders who have been operating under the assumption the supply problem was much worse."

Mr. Liggett pointed out that the government's annual estimates are based upon the livestock census each five years and upon "educated guesses" of trends, slaughter, calving rates and other factors. He said that cattlemen themselves could help to achieve better "interim accuracy" by carefully and sincerely participating in periodic surveys conducted by government statisticians.

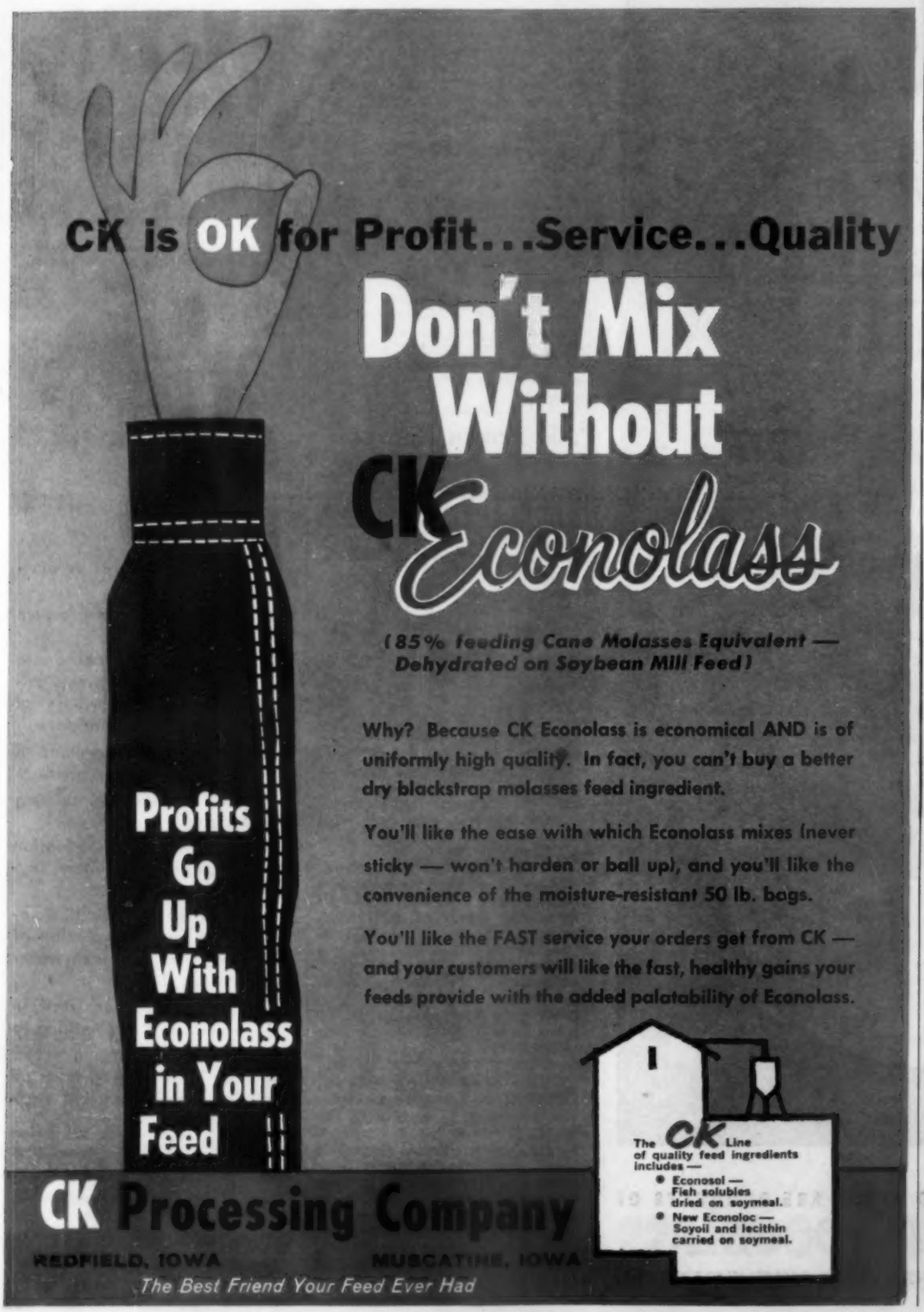
Babcock Poultry Farm Names Market Director

ITHACA, N.Y. — Carl W. Fribolin has joined the Babcock Poultry Farm, Inc., as director of marketing, according to an announcement made by C. E. Dayton, general manager.

Carl W. Fribolin

In this newly created post Mr. Fribolin will coordinate all functions in the field of marketing including commercial, franchise and export sales, advertising and sales promotion, Mr. Dayton said. A native of Naples, N.Y., Mr. Fribolin was graduated from the New York State College of Agriculture at Cornell University.

Before joining the Babcock organization, Mr. Fribolin was general manager of an integrated broiler and egg production operation in Guatemala. Prior to that he was New York state sales manager for Ralston Purina Co.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You'll like the FAST service your orders get from CK — and your customers will like the fast, healthy gains your feeds provide with the added palatability of Econolass.
Profits Go Up With Econolass in Your Feed
The CK Line of quality feed ingredients includes —
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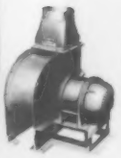
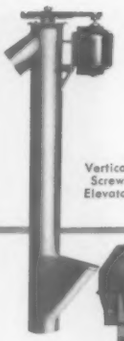


Grain Blower & Exhaust Fan

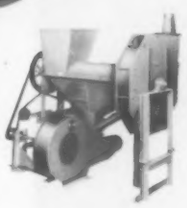


Vertical Screw Elevator

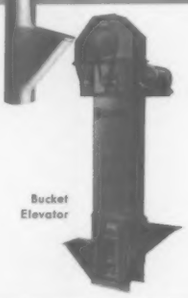
Cob Crusher for making Poultry Litter

Corn Cutter and Grader with Aspirator

Vertical Feed Mixer ½ to 5 tons

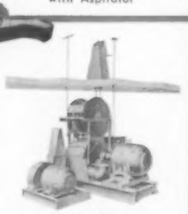


Corn Sheller with blowers for grain and cobs



Bucket Elevator

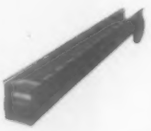
Forced Air Carloader with motor or belt drive



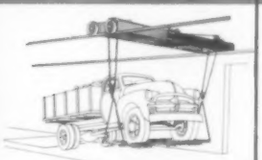
Remote Change Hammermill

Twin Molasses Mixer

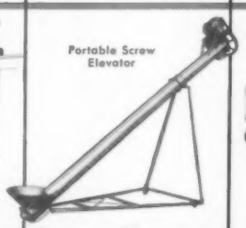
Corn Scalper with or without air cleaner



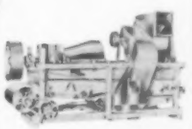
Chain Drag in double and single geared types



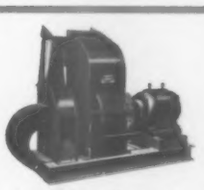
Electric Truck Hoist cuts handling costs



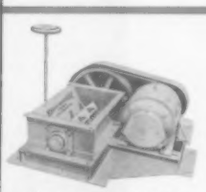
Portable Screw Elevator



Combined Sheller-Cleaner

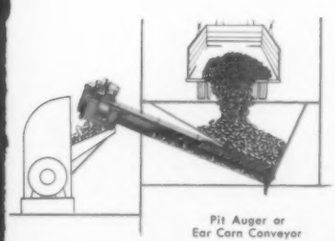


Instant Change Hammermills 12", 16", 20", 24" sizes



Finger Type Corn Crusher and Feed Regulator

Portable Bulk Scale for on-the-spot weighing



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- ☐ Twin Molasses Mixer
- ☐ Vertical Screw Elevator 4
- ☐ Portable Screw Elevator
- ☐ Bucket Elevator 5
- ☐ Electric Truck Hoist
- ☐ Corn Sheller with Blowers 6
- ☐ Portable Bulk Scale
- ☐ Pitless Corn Sheller 7
- ☐ Combined Sheller-Cleaner
- ☐ Gyrating Cleaner
- ☐ Corn Scalper
- ☐ Corn Cutter and Grader
- ☐ Cob Crusher
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Model L 12" screen 30 to 50 HP

Model KT 12" screen 30 to 50 HP

Model M 16" screen 40 to 75 HP

Model M-10 16" screen 75 to 100 HP

Model K-20 20" screen 75 to 125 HP

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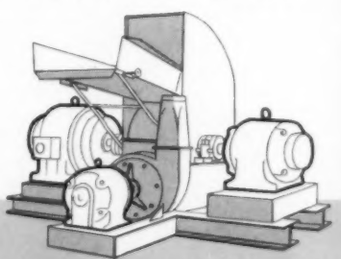

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JOE BROOKS

BY AL P. NELSON

When the Boss Is Away

Rusty Hagen was gone for the afternoon, attending a funeral, and Joe Brooks was consulting a hog raiser about pelleting some feed. Milt Peters, who was not backward when it came to taking charge of things, had ensconced himself in the front office and was running things.

His hat size did not get bigger as the day wore on, but his scalp did feel a little tight and he wondered whether his brain was growing a little. It should, he thought, since he had been absorbing so much feed know-how the last few years.

During a lull in grinding and mixing orders, Milt walked into the mill, and told each of the men. "Now, fellows," he said importantly, "if a farmer drives up and wants grain ground, just ask him to step into the office and get a number from me. In that way we can schedule things efficiently."

"Hey, what's the idea of instituting new policies?" Smiley Johnson asked. "You don't run this business."

"I'm in charge this afternoon," Milt said importantly. "I'm mill foreman. When Joe's gone and Rusty, too, automatically I'm over-all boss."

"Okay, Khrushchev," said Smiley. "If anything goes wrong, it's you who can take the blame."

Assigned Numbers

So when farmers came in with a grist order, they were sent into the office to get a number. "Milt, what the heck's the idea?" grumbled Max Baxter, a burly farmer from out Beecher way. "Why do we have to get a number?"

Milt turned on his most charming smile. "Well, Max, we just want to make sure that no customer gets placed out of turn. Besides, I like to have you in the office, so I can visit with you and give you some coffee. Sugar and cream?"

"Yeah," said Max, watching Milt draw coffee from the urn into a paper cup, "this is service. You'll be spoiling us, Milt. Why doesn't Joe do something like this—wait on us?"

Milt beamed with pleasure. "He'll get around to it. He'll get around to it." And he laughed happily. "More sugar?"

"Yeah. one more lump. Thanks. Say, Milt, why are you so extra nice to me? Wanna sell me something extra, or want a date with my daughter?"

Milt flushed a little. "I'm nice to all customers, Max. Sure, I'll sell you anything else you want, fertilizer, baby chicks for spring delivery. And you've got a pretty daughter. Too bad I'm tied up with so many redheads."

Max sipped his coffee. "Well, if you hear of some good eligible bach about 28, steer him our way. Minnie sure makes wonderful coffee cake. And she can play the piano."

The door opened and Smiley stuck his head in. "You're next, Max."

Milt nodded. "Yup, he's No. 6. More coffee, Max?"

"Yeah, fill her up, Milt, and I'll go back and see that they handle my grind right. And if you hear of a bach—"

"Yup," said Milt. "I'll scout around."

Thus it went all during the afternoon. Puzzled farmers came from mill to office to get their grind and mix numbers, and then Milt turned on the charm. While several of them stood chatting and drinking coffee, they did not notice that Milt would slip away quickly, write down a number for the grind and mix and briefly thumb over a rotating card file.

"Here's your number, Pete," he smiled cheerfully. "Now you can give this to Smiley and get the best grind and mix job in the state."

"Lay off the blarney," said Pete Wilkins. "When's the grind price coming down? That's what interests me." But he was pleased at the treatment Milt gave him.

Along about 4:30 a stocky, unshaven farmer came in. "What's the idea of a grind and mix number?" he muttered. "Never had that before."

"It's in the interest of better service to customers," Milt smiled. "Want some coffee?"

The farmer nodded. "Black."

Milt recognized the fellow as Jim Nusser. "How much you got?" he asked as he wrote out the number of the grind and flipped a rotating file card arrangement.

"Enough for about two tons of hog

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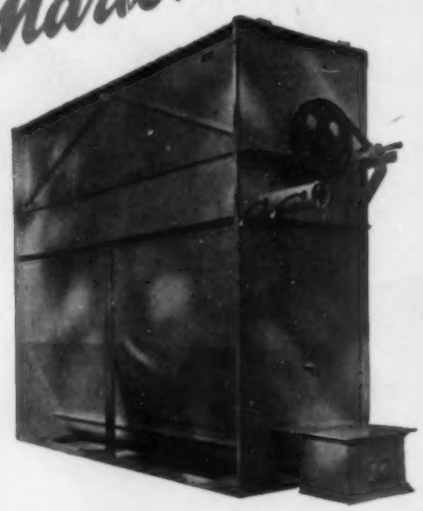

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CHRISTMAS GIFT IDEA—M. D. Snapp, left, plant manager for Dodgen Industries, Humboldt, Iowa, and James M. Roach, Dodgen sales manager, are shown selecting some of the 200-lb. hogs given by the company to its employees in 1959. They are assisted by Russell Salmon of Rutland Lockers. Aim of the idea was to give the sagging hog market a lift and employees' larders a boost. John N. Dodgen, company president, passes last year's idea on to other industry management for consideration. "Why not make our Christmas gifts do double duty?" he suggests.

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feed," grunted Mr. Nusser. "And hurry I wanna get back home."

An Unpaid Bill

Milt's face was serious. "Jim," he said pleasantly. "You've got an unpaid bill here of $432. It's about 90 days overdue. Want to settle it today?"

The man's face flushed. "You think I can't pay?"

"I think you can, but a notation on your card says you're on a cash basis until you pay. We need our money, Jim. We can't give out credit for too long."

The stocky farmer sipped his coffee slowly, and his black eyes glittered. Finally he set down his cup. "If there was another feed mill in the county I liked better I'd go there," he growled. "But there ain't. I can pay about $200. Do I get my grind done, if I do?"

"Why, sure," Milt smiled. "We're always glad to go along with our customers. A payment on the bill helps a lot."

Smiley Johnson opened the door to the office. "Next," he said, noting Jim Nusser paying a bill.

"I'll be with you," Nusser muttered. He tossed the check to Milt, straightened his shoulders, grabbed the grind and mix number and went to the door. "And I want a super grind and mix job," he told Smiley.

Later Smiley came into the office. "How come Nusser was so owlly?"

Milt smiled and related the episode. "He wanted more grinding and mixing and said nothing about paying a long overdue bill. I was wise to him."

"Lucky you checked his credit," Smiley said. "Otherwise he might have hooked us for more."

"I'm thinking all the time," Milt grinned. "Joe explained his system to us once, remember. One noon, I had Rusty explain it to me in detail. So I used it today."

"Tell me about it," Smiley said. "I sorta forgot the details."

"Well," said Milt, "we've got all customers' names on rotating file cards. A red tab on a card means don't give any more credit. A yellow tab means the sale is left to the discretion of the employee. A white tab means a town customer and pink tab means a feed customer. There can be two tabs on a card, but the red one is the one to watch—along with the yellow one."

Smiley nodded. "And so that's why you wanted those customers to come here and get a grind and mix ticket. You wanted to catch the bad pay fellows before their grinds went through."

"I didn't want Joe and Rusty to call me a dummy!" Milt chuckled. "I wasn't born yesterday. If Joe has a system he wants carried out, let's use it."

"I can see you don't sleep on feed sacks all day long," Smiley grinned. "Only once in a while."

"Get out of here!" threatened Milt in a mocking manner, picking up a stapler. "Or I'll button up your lip. Back to the mill. I'm an executive this afternoon."

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R. J. McDonald T. I. B. Gray

Bemis Packaging Unit Promotions Announced

ST. LOUIS—The Packaging Service unit of Bemis Bro. Bag Co. has announced the appointment of R. J. McDonald as assistant manager and T. I. B. Gray as sales manager, according to H. V. Howes, director of sales.

The company's Packaging Service, located in Minneapolis, designs and manufactures bag filling, closing and conveying equipment, and also provides plant survey services for installation and improvement of packaging operations of customers.

In the announcement Mr. Howes said Mr. McDonald will succeed William J. Geimer as manager of the division when the latter retires Jan. 31.

Mr. McDonald joined Bemis in Omaha in 1935. He became a salesman in 1941 and served in Nebraska, Idaho and Colorado until 1955 when he was appointed sales manager of Packaging Service.

Mr. Gray has served as an industrial engineer, personnel assistant and sales representative with Bemis since 1949. He was transferred to Packaging Service early this year as a member of the packaging machinery sales group.

Southeastern Poultry, Egg Convention Set

ATLANTA—Plans were completed at a recent board of directors meeting here for the annual convention of the Southeastern Poultry & Egg Assn. and parts of the organization's communications program were reviewed by officials.

The board approved recommendations from the program committee for the 1961 convention scheduled for Jan. 23-25 here. The Atlanta Convention Bureau reported that most downtown hotels are already filled for the convention and that persons desiring reservations should write directly to the bureau.

The association staff reported on progress for the 1961 Southeastern Poultry Directory and other phases of the membership communications program were discussed, according to the meeting report.

Directors present were: H. F. McCarty, Joe Frank Sanderson, John Wallace, Joe Tankersley, Smith Johnston, Paul Davis, Bev Yeiser, Norman Sanders, Paul Thomas, George Heitz, Maurice Pickler, A. A. Middleton, Mays Montgomery, and Henry Tilford, Jr. Staff members present: Paul Williams, Harold Ford.

Canadian Milling Firm Names New President

STREETSVILLE ONTARIO—Carl L. Rogers has been appointed president of the McCarthy Milling Co., Ltd., in Streetsville, according to a recent announcement. The company produces Harmony and Cavalier feeds and High Loaf and Cavalier flour.

Mr. Rogers was formerly president of Central Grain & Feeds, Ltd., in Chatham, Ontario. He is a graduate engineer of McGill University, and is well known throughout the feed industry. He served as executive vice president of Victory Mills, Ltd., soybean processor, up to the time he formed Central Grain & Feeds, Ltd., in 1952.

Builders Start Work On Pilot Buildings Of Big Hog Operation

RED OAK, IOWA — Construction has been started here on the pilot buildings for an enterprise which, eventually, is to include most of the facilities needed to grow and process hogs.

To be known as K-R Iowa Pork Producers, Inc., the plant is to cost about $5 million, say officers of the corporation. Plans include hog growing, feed and butchering operations.

Five buildings are under construction: Farrowing house, weaning and nursery building and three growing and finishing houses. The contractor is Henningsen Steel Products Co., Inc., Atlantic, Iowa. Work is scheduled to be completed in December.

Corporation officials say the building will feature automatic feeding and manure removal, air conditioning and heating. "These will be the pilot buildings. We'll know in the spring whether the project will succeed," says Bert Render, vice president of the Red Oak firm and president of Mid-America Milling Co., Omaha.

Cost of the pilot buildings has been set at $150,000.

The pilot unit will have a capacity of 5,000 head, but the completed plant has been designed for an annual capacity of 100,000 head. Eventually, if present plans materialize, K-R Producers' operation will include a push-button feed plant, a hog-buying station and a hog-packing plant.

Lowell Kinnison, Red Oak, is president of K-R, and Dale Clements, also of Red Oak, is secretary. Mr. Kinnison and Mr. Render own and operate Mid-America Milling Co., an Omaha protein blending and fertilizer mixing business. Mr. Kinnison said the new swine operation will be operated separately from the Omaha business.

14 Dealers Supply Drouth Aid Storage

CASPER, WYO.—Fourteen Wyoming feed dealers have been designated to supply warehouse facilities for surplus grains under the drouth feeding program as announced by the Agricultural Stabilization and Conservation (ASC) office.

First shipments went to the Star Valley Feed Co., Afton; Farmers Feed Store, Thayne; Walton Coal Co., Cokeville, and Farmers Exchange Elevator, Riverton.

Other authorized warehouse facilities are provided by Noland Feed Co. and Jacquot Feed Co., Casper; Lander Mills, Inc., Lander; Farmers Union Co-op, Riverton; E. H. Walrath & Sons, Worland; Tri-State Milling, Lusk; Petersen Lumber & Grain Co., Upton; Norman's Yellowstone Co., and Z&W Milling, Torrington.

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There's more than meets the eye in any mill construction project. Most people tend to think only in terms of the major pieces of equipment and the structure which houses them. That's why they rely on reputable engineers and contractors to plan each detail for them and furnish comprehensive cost quotations.

Unfortunately, some mill owners have found to their regret that the low bids they accepted from some contractors were low only because they were incomplete. The addition of such vital things as complete wiring and ductwork, motor starters, air cylinders, and countless other "minor" items sky-rocketed their costs after it was too late to do anything about them.

You wouldn't think of buying a new car without a starter, spark plugs, generator, or other similar equipment. But people actually do buy mills under much the same conditions, only to find out that they must come up with extra money before the mill will even run.

You can avoid this danger completely by asking us to bid on your next mill construction, expansion, or modernization project. All Myers-Sherman feed plants are engineered complete to every last detail . . . and *quoted* that way, too!

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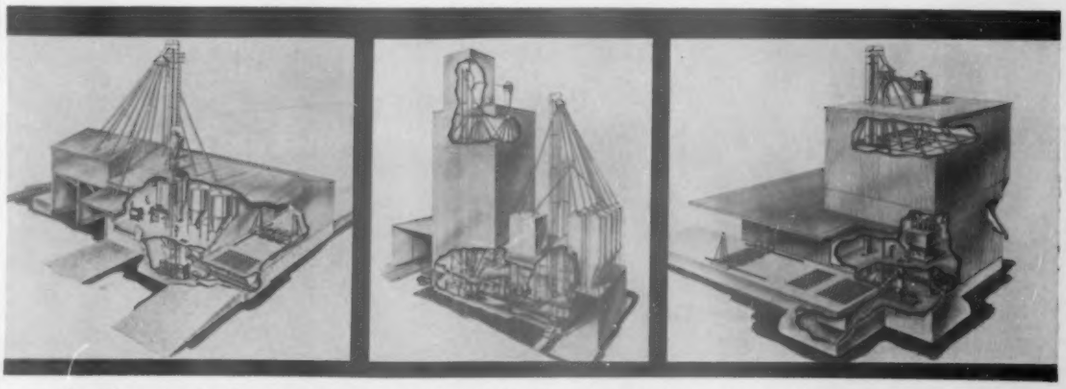

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CYANAMID COORDINATES ITS SERVICES TO THE FEED INDUSTRY

The modern feed industry bases its total operation on service . . . because the day when the feed manufacturer had nothing to sell but a ton of feed is past.

The industry's trend to more and better service represents a broadening of function . . . a dedication to the problem of helping the livestock and poultry producers to achieve a greater degree of production efficiency and economic success.

Through its service function the feed industry provides producers not only with constantly improved and more advanced feeds, but also helps them to better organize their needs . . . plan ahead . . . and *coordinate* their programs.

This is no overnight phenomenon. It is a growing, developing merchandising trend.

The American Cyanamid Company has observed this trend from its beginning and has coincided its own plans and operations to dovetail into this development. Many of its departments, servicing agriculture with fertilizers, pesticides, defoliants, feed additives and veterinary products, were brought together and coordinated into the Agricultural Division.

Cyanamid purchased over 600 acres of land near Princeton, New Jersey, and is now building an agricultural research and new-product testing center with facilities second to none in the world. Thus, the most active and largest livestock and poultry research organization maintained by any company – the discoverers of AUREOMYCIN®, modified live-virus vaccine, coccidiosis control, a safe hog cholera vaccine, blackhead control, mass vaccination (dust) for poultry, sulfonamide therapy for animals (SULMET®) – has been consolidated and integrated.

Program for the Sixties

And now at the beginning of the Sixties, Cyanamid further coordinates its services to the feed industry, and the producers of America, by offering to the feed industry a completely coordinated feed-health program to further improve the efficiency and financial well-being of the nation's producers . . . to give strong, practical support to the industry and to increase feed sales.

And the coordinated feed-health programs, proposed by Cyanamid, do still more because they will join together a coordinated team of experts–the agricultural college and experiment station specialists, the feed manufacturer, the veterinarian and the livestock and poultry producer.

The Coordinated Feed-Health Program delivers the *double punch* – the full-count knockout – to disease, the ancient enemy of the producer. We think you will immediately recognize the potential power of this program in furthering your own plans for increasing your total feed business.

What is the Cyanamid Coordinated Feed-Health Program?

Briefly, the Cyanamid Coordinated Feed-Health Program is a systematic and organized attack on the disease problems that plague producers.

Carefully developed recommendations for the coordinated use of feeds containing AUREOMYCIN, and scheduled use of preventive vaccines and medications, work for top health and profits from start to market . . . and through the entire productive lifetime of livestock or poultry. Farmers who utilize these programs automatically become better feed customers, using more feeds, more effectively.

What are the advantages to the feed manufacturer and dealers?

1. *Awareness by the producer that livestock and poultry health must be planned for . . . that good health and resulting higher income are not accidental:*

The inclination by many livestock and poultry men to gamble–to take a chance on "getting by" healthwise–cuts down income from their operations and reduces their value as feed customers. Anything that moves the producer to improved efficiency and better income is of great value to the feed manufacturer and his dealers.

2. *Better feed performance . . . fewer complaints:* Many producers traditionally tend to blame any problems on the feed. By achieving a higher level of health and production in the herds and flocks of producers, this serious problem is virtually eliminated.

3. *Stronger feed customer loyalty and satisfaction . . . more and easier contract renewals:* The producer who is getting along "just fine" is the feed manufacturer's best advertisement. Producers, well satisfied with results, are reluctant to change feeds . . . remain as regular customers year in, year out.

4. *A new source of sales and profits:* Because the entire Cyanamid Coordinated Feed-Health Program is built around the planned use of both feed and medication, producers will naturally look to their feed dealers as a source of supply for both types of products. Thus, in his line of medications, the feed dealer has a fast-growing line of additional profit items and a ready-made opportunity to increase his feed sales.

5. Producers are more inclined to accept the feed dealer's recommendations. The Coordinated Feed-Health Program naturally works to establish a still stronger relationship between producer and feed dealer–a working partnership that must, in most cases, result in higher, more continuous use of various kinds of feeds.

Consult your Cyanamid representative

Your Cyanamid representative will be glad to give you detailed information, and supply you with promotional literature, on this Coordinated Feed-Health Program. Consult him or write direct to: American Cyanamid Company, Agricultural Division, New York 20, N. Y. *®AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline. ®SULMET sulfamethazine.*

CYANAMID

COORDINATED FEED-HEALTH PROGRAM

CYANAMID SERVES THE MAN WHO MAKES A BUSINESS OF AGRICULTURE

Industry Shift Toward Demand Orientation Cited

By ROGER BERGLUND
Feedstuffs Managing Editor

ATHENS, GA.—The feed industry's shift toward demand orientation—more and smaller mills closer to points of livestock and poultry production, including some feed deficit areas—was pointed out at the Southeastern Feed Production School here Oct. 25.

This trend, mentioned frequently in recent years, was one of a number of trends and developments brought out in a talk by a U.S. Department of Agriculture economist who has studied various feed and related operations in the U.S.

Commenting on various studies of costs and other aspects of feed industry operations, Dr. V. John Brensike noted that one of the USDA studies has shown a "tremendous increase in the number of feed mills located in feed deficit areas such as the Southeast."

"It also indicates," he said, "that this apparently is not only a shift from the Corn Belt or surplus grain production area to grain deficit areas, but is also part of an apparently general trend throughout the country toward a more direct demand orientation of the industry. By demand orientation, we mean a shift of some of the production in the industry from terminal locations to the farm feeding areas. This not only tends, in many instances, to reduce transportation costs but also to reduce the size of the average plant volume.

"A shift toward demand orientation in a young and growing service industry is almost an expected trend, but it also points up one of the major advantages of a local mixer over a larger competitor: He is on the spot in a service industry. It may also, however, highlight one of the major problems of a local mixer: He must have good management in both production and sales to keep up with specialized foremen, salesmen and retailers of the larger mixers as well as produce a competitive quality feed."

Thus, said the economist, it appears that there is a place for the local mixer in the present feed industry, and with the right management, equipment and location, they can compete. But they must keep abreast of the trends operating in the entire industry and especially in their local area. "Business as usual in a changing industry may be one of the easiest ways to be by-passed and lose a business," Dr. Brensike observed.

The production school, held Oct. 23-25 at the University of Georgia, was sponsored jointly by the Southeastern Poultry & Egg Assn., Feed Production School, Inc., and the university.

New Studies

In commenting on some of the trends, Dr. Brensike mentioned that USDA now is summarizing data from a mail survey in which it is trying to obtain information on each of the various trends in the industry. This survey recognizes the varying trends in different areas, and samples were drawn in each of eight states—Massachusetts, Pennsylvania, Georgia, Indiana, Iowa, Colorado, California and Washington—which were chosen to represent different types of feeding and feed industries.

Studies of this type will help feed men adjust to changes, Dr. Brensike said. But he also stressed analysis of one's own business and local developments. For one thing, he mentioned analysis and comparison of one's own costs with industry standards, including information developed by USDA and the Feed Production School.

At the same time, Dr. Brensike said: "Costs alone will not give you the answer to any of the problems that confront you. Since you are in a service industry, competition may occasionally force you to increase costs either to give farmers a feed which will bring about more efficient production, or give them more service with their feed. In fact, I think that we can indicate with some degree of certainty that in a service industry such as this, the number of services rendered will continue to increase. But which services can you afford to give and how can they best be given? Again, a knowledge of operating costs will help supply the answer."

Divergent Trends

At the outset in his talk, Dr. Brensike mentioned the many divergent trends now apparent. "Some of them," he said, "are tending to pull mixed feed production from the industry to the farm; others to bring farm production into the feed industry. Still others are tending to change the relationship between, or the competition among, small and large feed manufacturers and retailers . . .

"If you as individuals and the feed industry as a whole (1) can concentrate on producing formula feed at lower operating costs and pass these savings on to the feeders, and (2) continue those formulas which will result in the highest gains per pound consumed, you will have a major answer to many of the trends facing you today."

He commented that integration of feed and broiler production permitted most widespread use of scientific feeds and management to produce the cheapest gains, and he said that as long as integrated production can perform this function, it will continue to expand in this and possibly other industries.

Volume and Costs

Dr. Brensike reviewed some earlier USDA studies and mentioned these conclusions from those studies:

(1) The industry cost curve drops downward rapidly as plant volume increases from the smallest volume to an annual output of about 10,000 tons. This means that local processors with small volumes must cover larger per unit costs by lower costs in other areas or have sidelines.

(2) The industry cost curve tends to level out considerably at an annual volume of about 25,000 tons. This indicates that when operating costs alone are considered, additional tonnage does not result in large savings to a plant after it reaches 25 000 tons.

(3) Most of the economies of scale result from the grinding, mixing, packaging and pelleting cost centers. Apparently smaller mills have about as good a chance to operate at a lower cost in receiving, warehousing and maintenance as do larger mills.

(4) Custom milling operations, either mobile or stationary, must have an annual volume of at least 2 000 tons before they can break even on their service operation, given current costs and charges.

For a number of years (1947-54), said Dr. Brensike, the feed industry has been increasing labor efficiency at a rate of about 10 minutes per ton per year—largely through expenditures for improved layout and equipment. However, records from actual operations in USDA cost studies indicated that there is still considerable potential for further decreases in man-hours per ton in many mills.

Some data from 1956 showed that plants in the 7,500 to 10,000 tons per year category averaged about 3.2 production man-hours per ton; some did it with about 2.5 man-hours per ton. However, the Feed Production School standard was 1.8 man-hours per ton for a given plant and business situation.

Plants mixing 50,000 to 75,000 tons per year averaged 1.4 man-hours per ton, and better-than-average plants did somewhat better than this. The standard for this size operation was 0.8 man-hour per ton, assuming certain bagged and bulk volume conditions.

Dr. Brensike said data from June, 1959, are somewhat similar to the cost data before. (However, a number of feed men observed that a considerable number of mills do better than this.)

All of the cost studies assumed certain amounts of bagged and bulk feed and, based on these conditions, it was noted that warehousing required the largest proportion of production labor and appeared to offer the greatest potential for savings. In each volume category average operations are considerably higher than the standard.

Livestock Gains

Also commenting on certain industry developments was Larry Alley, Pay Way Feed Mills, Kansas City, former Feed Production School board chairman. He cited, among other things, the big population and animal food products gains.

In this connection, he mentioned the South's increasingly important role. For example, he showed that Alabama now has 30,000 beef cattle herds, with a total of 738,000 brood cows. The total herd almost equals the beef cow herd in Colorado and surpasses that of such traditional cattle states as Wyoming, New Mexico and Arizona. In the next five years, Alabama specialists predict, income from beef cattle alone in Alabama will reach $150 million annually—to say nothing of the poultry and other enterprises in the South.

Mr. Alley stressed the importance of good management in feed milling operations and of taking the "steps for survival" in the industry.

THAT AIN'T HAY!

DERRY, N.H.—"It ain't hay" might well be the comment of Erbert Comette of Derry, 47-year-old salesman for Wirthmore Feeds, Inc., in Concord.

Mr. Comette, an employee of the feed firm for 31 years, has been informed that a $3 ticket which he held on the Irish Sweepstakes won him a fortune of $28,000. It is estimated that his "take-home" winnings, after taxes, will amount to about $18,000.

The feed salesman, who said he and his wife were "deliriously happy," held a ticket on the horse "Ides of March," which finished third in the big race.

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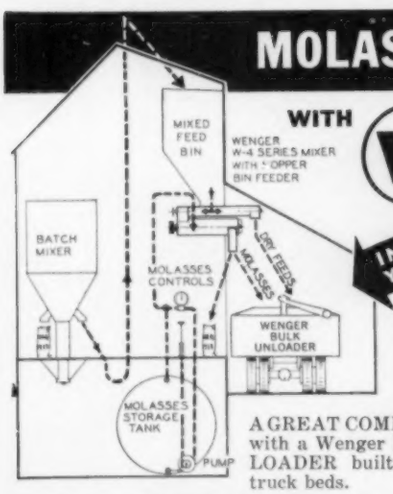

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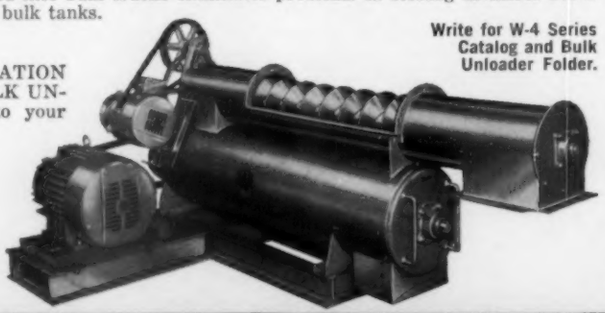

ABOVE—W-4-72 Series Hopper Bin model with reversible feeder may deliver mixed feeds to the molasses mixer, or into bulk trucks directly for those feeds to be delivered in meal form without molasses. Models available from 3 tons to 40 tons per hour.

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ADM Shows 36% Gain In Earnings for First Quarter of Fiscal Year

MINNEAPOLIS — Earnings of Archer-Daniels-Midland Co., Minneapolis, for the first quarter of the current fiscal year were nearly 36% higher than a year ago, John H. Daniels, ADM president, announced this week at the annual meeting of company shareholders.

He said profit for the three months ended Sept. 30 was $1,130,348, equal to 72¢ a common share. In the same period a year ago, ADM earned $857,503, or 53¢ a share.

ADM announced last August that it had sold its formula feed division and line of country elevators. But the company, which has changed its production emphasis from some of its traditional endeavors to fields "where the promise of profits is greater," still remains in soybean processing, alfalfa dehydrating, grain merchandising and flour milling. Much of ADM's planned expansion is in chemicals.

Problems Continued

In announcing ADM's improved earnings, Mr. Daniels cautioned that the company continues to face problems in several areas of operations.

"ADM's earnings for the current October-December quarter, the second of the company's fiscal year, will depend to a large extent on general economic conditions, and more specifically on the agricultural processing industry which is still spotty," he said. "Nevertheless, we hope to come close to the 70¢ a share earned by the company in the corresponding quarter last year."

ADM showed its shareholders some of its newest products which already are in use in such diverse industries as textiles, plastics, automobiles and food. The company is a major supplier of basic materials to nearly every segment of American industry.

A dividend of 50¢ a share, payable Dec. 1 to shareholders of record Nov. 16, was voted by the board of directors. This will be ADM's 137th cash dividend and 117th consecutive quarterly dividend. There are 1,569,571 shares of stock outstanding.

Board Election

Shareholders re-elected the following members of the board, headed by Thomas L. Daniels, chairman, and John Daniels, president and chief executive officer:

Walter G. Andrews, executive vice president, chemical group; S. M. Archer, Jr., investments, Pebble Beach, Cal.; Robert W. Austin, professor, Harvard School of Business Administration, Boston; Richard G. Brierley, executive vice president, specialty group; Crowdus Baker, president, Sears, Roebuck & Co., Chicago; Henry W. Collins, vice president and manager of West Coast grain operations, Portland, Ore.; Erwin A. Olson, executive vice president, agricultural group; Samuel H. Rogers, senior vice president, Northwestern National Bank of Minneapolis, and Burton W. Schroeder, administrative vice president.

The wide range of new products shown at the meeting, coupled with John Daniels' disclosure that the company again is increasing its research budget, underscored ADM's emphasis on upgrading commodities to more profitable materials for industry.

John Daniels said these new products represent one phase of ADM's program to improve earnings. Other phases of that program include the development of new markets and the acquisition or construction of new facilities with improved profit potential.

The latter, shareholders were told, is represented by the multi-million dollar ADM Chemical Center now being built at Peoria, Ill., and ADM's recent acquisition of the J & O Grain Co., Minneapolis, which has broadened the area from which ADM obtains grain for its processing and marketing operations.

Comments on Surplus

Thomas L. Daniels said that both political parties are committed to lowering farm surpluses. "While that could reduce ADM's grain storage operations, it should not affect the company's expanding grain merchandising program," he said.

The ADM chairman was critical of Congress' failure to attack the surplus problem through increased research on new industrial uses for agricultural commodities. Most research effort, he said, is directed toward increasing production which in turn adds to the surplus of farm products.

Mr. Daniels emphasized that while the company is strengthening other phases of its business, such as chemicals, it has great confidence in the agricultural part of its operations and expects them to continue to contribute substantially to future earnings.

California Cattlemen Propose Requirement Change in Grading

SAN FRANCISCO — Retailer surveys taken on the West Coast indicate a trend toward lighter weight beef carcasses, less waste fat and younger meat.

The surveys, conducted by the California Cattlemen's and Cattle Feeders' associations and the Western States Meat Packers Assn., were reported at the October meeting of the Cattlemen's association executive committee. The committee decided to take a proposal for changing marbling requirements for choice grade beef to the National Grading Conference in Kansas City Nov. 14-15. They will press for lowering the marbling requirement by one degree in all three age groups—young, intermediate and mature. No other changes were approved at the meeting.

The meat packers endorsed the proposal, but the California Cattle Feeders adopted a slightly different resolution, calling for a lowering of the marbling requirements in the young age group only.

It was reportedly felt that lowering the marbling requirement would provide both the consumer and the retailer with the kind of meat they seem to desire at this time and increase the consumption of beef.

The Oregon, Idaho, Arizona and Nevada cattlemen's associations and the Arizona and Idaho cattle feeders associations sent observers to the meeting. Many of their representatives are reported to have expressed approval of the change in marbling requirement.

Poultry Lab Planned

DENTON, MD.—The University of Maryland will set up a poultry diagnostic laboratory in Preston, Md., now that the Caroline County Commissioners have agreed to provide a building and utilities, it was announced.

The service has never been available to local poultrymen or to poultry producers of the area.

Decision of the commissioners came after two years of work by Edward H. Covell, Jr., member of a grain firm in Easton. Paul A. Croll and John Hargreaves, Federalsburg, two Caroline poultry leaders, were also interested in the project.

FIRM INCORPORATES

DOVER, DEL. — Klueter Feed Store, Inc., filed a charter of incorporation with the corporation department of the Secretary of State's office here. Authorized capital stock of the firm is 1,000 shares of stock, no par value. The Prentice-Hall Corporation System, Inc., Dover, Del., is serving as the principal office.

FEEDSTUFFS reprints

The following reprints of articles which have appeared in Feedstuffs may be obtained on order from Feedstuffs' Reader Service Department:

3. **Mobile Feed Milling**—a series of five articles—by Al P. Nelson.. **50c**
26. **Feedstuffs' 1960 Analysis Table for Feed Ingredients**—by Charles H. Hubbell **20c**
52. **Analysis and Feeding Value Tables for Beef Cattle and Sheep**—6-page article, by Dr. S. H. Morrison, Nutrition Consultant, 25c single copy; 3-5 copies, 15c ea.; 10 or more, 10c each.
69. **Pelleted Rations for Beef Cattle**—Dr. Wise Burroughs, Iowa State University **20c**
71. **The Grain Bank Has Come of Age**—Glenn R. Siler, Ralston Purina Co. **20c**
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84. **A New Look at the Broiler Business**—Dr. L. A. Wilhelm, The Quaker Oats Co. **20c**
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How Feed Men Advertise—Part 5

Radio, TV, Billboards, Gifts— All Have Their Place in Selling

By Al P. Nelson
Feedstuffs Special Writer

Many feed men are using radio spot announcements, often two or more a day, to build good will and increase sales. These spots cost $2 each and up, depending on the size of the radio station and its coverage.

Then there are some feed men who sponsor regular radio programs of 5 to 15 min. These programs usually consist of news, weather and livestock market reports. For example, Johnson Brothers Co., Shenandoah, Iowa, has such a program. It is broadcast daily from 12:10 to 12:15 p.m. on a local station and has quite a large rural audience. The Johnson management says customers often mention the radio program when they come in to buy.

The Litwiler Grain & Lumber Co., Milledgeville, Ill., also has a well liked daily radio program once a day. It involves a "Swap and Shop" listing which is very popular with farmers in that area.

Chester Mithuhn of Home Town Feed & Fuel, Mt. Horeb, Wis., broadcasts his feed specials in Norwegian now and then and this appeals to the many Scandinavian farmers in the area.

Ad Cost Shared

One often hears announcements of feed products via radio, sponsored by five or six dealers who sell one major brand of feed. All the dealers share the ad cost with the feed manufacturer.

There are not too many feed firms, except for the larger area feed manufacturers, who are using television advertising. However, one does occasionally find on some television station a feed commercial. The cost of such advertising is prorated. I have noticed that many large cooperative feed and grain firms are beginning to use television advertising in some areas.

I have often wondered why feed dealers, custom mill owners and regional feed manufacturers do not use billboards more often. One sees quite a number of small feed product signs along highways, but I am speaking of the larger billboards which really command attention. The large volume feed manufacturers use them, but other feed men seem hesitant to employ this medium extensively.

An exception is Dexter Obenhaus, owner of Community Feed Mill, Princeton, Ill. A former milling machinery salesman, he established a fine mill about seven years ago and makes his own brand of Holsum Feeds.

Mr. Obenhaus has some outstanding billboards. He buys space from a local billboard company and he uses from two to three boards out of five locations per month. This service costs him $24 per sign per month, which amounts to $72 some months.

Mr. Obenhaus says that billboard advertising pays because farmers tell him they read the signs.

Store Signs

Not exactly in the billboard classifications are those advertising signs which some dealers use on the exterior of their mills and stores. They are inexpensive to erect for the most part, and they'll do their share of selling, too. Many feed men have mill wall and warehouse wall space on which some excellent signs could be placed. But few feed men as yet avail themselves of such advertising opportunities.

Under advertising expense, too, many dealers list the cost of a camera and the taking of pictures. Many feed man own Polaroid cameras so they can snap a picture and within a minute or so give the farmer a print for his own use.

Numerous feed dealers say picture-taking is an excellent way to build good will and also win more business. The farmer who is given a picture of himself or family feeding a prize poultry flock, or herd of hogs, etc., is going to be very proud when he sees that picture on the dealer's bulletin board or perhaps in a newspaper ad. It makes him feel more important. It is evidence that his know-how of farming and feeding is recognized by other people.

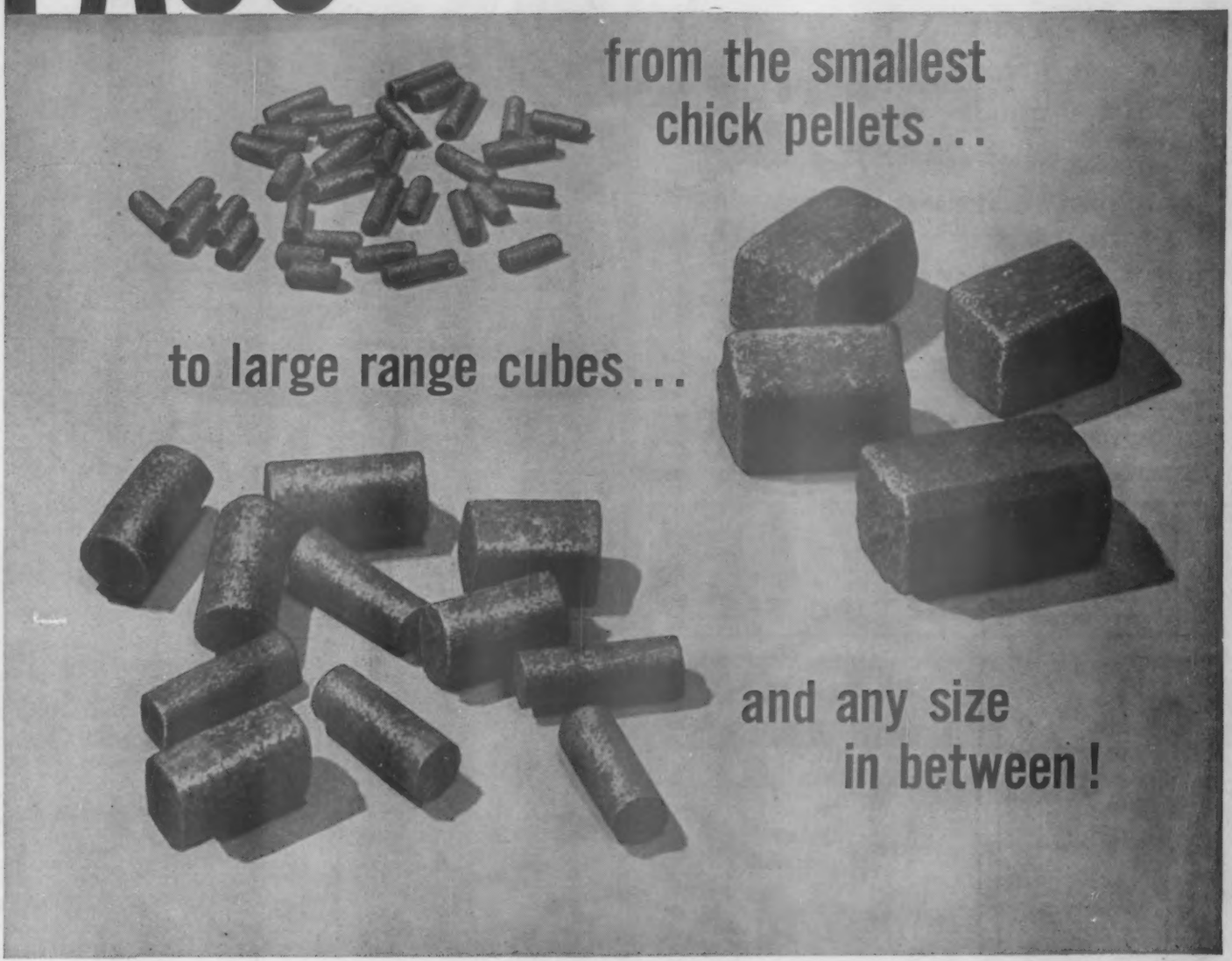
I have met feed men who also own other types of cameras, particularly the 35 mm size which is excellent for colored slide work. Many feed dealers take color pictures of farmers and their feed and crop projects and then

RADIO PROGRAM—Wayne Johnson, Johnson Bros. Co., Shenandoah, Iowa, broadcasts the firm's daily "Marketcast" radio program over the local station. The remote control broadcast covers market quotations and runs for 5 minutes.

EDITOR'S NOTE: *In previous articles, this series covered newspaper, direct mail and regional magazine advertising, which some feed dealers are using to build good will and increase sales. In this final article of the five-part series, Al P. Nelson writes about other forms of advertising used by feed merchandisers—billboards, radio, TV, giveaways.*

Information for these articles was gathered by Mr. Nelson in interviews with several hundred feed manufacturers, custom mill operators, hatchery owners, mobile mill operators and feed store owners.

PACO makes Pellets best!



Pellets made with Paco mean repeat business, because Paco-ized pellets are entirely different from any other pellet.

Paco is a feed ingredient in itself, supplies plenty of essential nutrients for greater feed conversion and productivity. Its rich, molasses flavor adds palatability to all types of pelletized feed.

"Fines" are a thing of the past with Paco, because pellets form better and hold their shape until they are fed! That means less waste that normally increases feeding costs. Paco-ized pellets are glossy, slick in appearance, hold down choking dust in cattle feeds.

You can use Paco with confidence. Once customers see, smell and experience the goodness of Paco-ized pellets, once they watch meat, milk or egg production go up—you're in for additional business.

Get Paco, packed in convenient-to-use 50-lb. bags. Write us for information on pelleting and farm uses of Paco.

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Complete Cereals Processed Specially For Pet and Small Animal Foods

★ TOASTED CORN FLAKES ★ KIBBLED CORN
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★ CORN GRANULES ★ KIBBLED PREMIXES

(Straight or Mixed Shipments)

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RED W BRAND Protein Concentrates

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When you sell Red W Brand Meat and Bone Scraps, Digester Tankage, and Vitagen Feeding Fat you're selling nature's own formula... giving your customer the high energy feed he needs. Red W Brand builds repeat business... puts meat on the animal... money in the till.

Animal Protein Concentrates and Vitagen Feeding Fat

The BEST Ingredients Make BETTER Feeds

RED W BRAND 50% Meat and Bone Scraps
RED W BRAND 60% Digester Tankage
RED W BRAND Steamed Bone Meal
RED W BRAND Vitagen Feeding Fat

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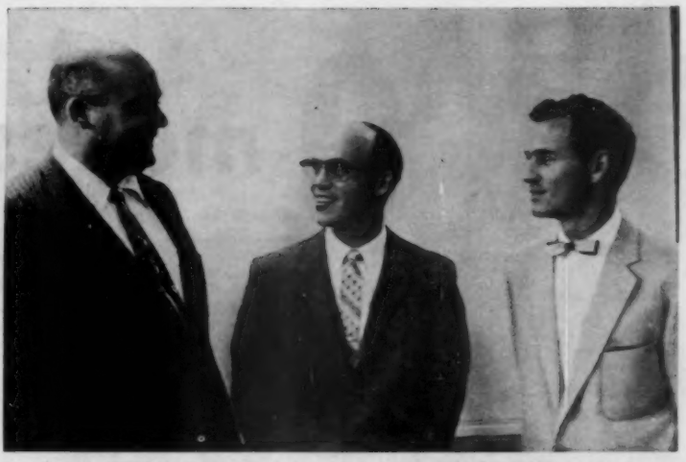


FEEDING TESTS—Speakers giving results of poultry feeding tests during the fourth annual Poultry Study Day held Oct. 25 at the University of Arkansas' Agricultural Experiment Station, Fayetteville, are shown above. From the left, they are: Dr. E. L. Stephenson, poultry nutritionist, and D. B. Bragg and B. N. McPherson, both research assistants. (Feedstuffs, Nov. 5.)

show these slides at feed education meetings, or at a county fair booth. Feed merchandisers who also handle and sell fertilizer often use color slides in their customer education work.

Giveaways

A large number of dealers in 1959 and 1960 have given free decorative and utility items to their customers as good will and business building ideas. These items include butcher knives, serrated bread knives, fountain pens, yardsticks, notebooks and many other items.

Some feed men tell me they buy large quantities of these items, and get them at prices of 20¢ to 88¢. I know one dealer who gives his regular customers an ice cream scoop which cost him 68¢ to purchase in large lots.

"My name is imprinted on the back," says the dealer, "and I think it's good advertising, for practically every farmer makes or buys ice cream today and keeps it in the refrigerator constantly."

Perhaps an outstanding advocate of this type of good will giveaway is E. T. Van Buren & Sons, Inc., Hobart, N.Y. Out of a 1% advertising budget this firm spends 60% for good will or giveaway advertising, 25% for newspaper advertising and 15% for a once-a-month direct mail bulletin. Arthur and William Van Buren, who operate the feed and farm machinery firm, say they have allotted a large portion of the ad budget to good will items for years. They find it pays.

The firm gives a good cigar to every man who pays his bill within a reasonable length of time. The company stages four large sales per year, and a $1 restaurant meal credit is given to the farmer who comes the longest distance.

Women get a neat, leather-covered blue notebook, the kind women like to carry in their purses. The firm has also given away 500 ball point pens, 500 sturdy walking canes and similar quantities of other items.

During the Christmas season the firm gives knives, rulers, pads, dishes and other items to customers. The firm also issues beautiful baby record books for parents of new babies. Farm record books are distributed to customers.

F. J. Krob Co. of Ely, Solon and three other locations in Iowa, give their customers appropriate items at Christmas in appreciation of their patronage. So does Mapleton Feed & Hardware Co., Mapleton, Wis., and the Home Town Feed & Fuel Co., Mt. Horeb, Wis.

Chester Mithuhn of Home Town gave away colorful red yardsticks one spring day, and reports that farmers were walking all over main street carrying or swinging these yardsticks. Their neighbors met them on the street, learned where they got the rulers and then hightailed down to Home Town Feed & Fuel to get theirs.

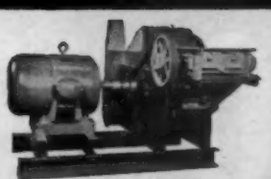
"I even had other merchants compliment me on this stunt," says Mr. Mithuhn. "They, too, noticed all the farmers carrying our yardsticks."

If one lumps the cost of all the above mentioned forms of advertising, plus the expense of staging annual and other sales, plus other promotions, a 1% advertising appropriation is sliced very, very thin.

However, feed men who do advertise wisely seem to do a fairly commendable job. If the average ad appropriation ever reaches 1½%, feed men are probably going to step right into the front rank of small town and city advertisers, and they undoubtedly will be pleased with the results.

Well programmed advertising, based on an annual budget, and with copy and layouts carefully considered, does pay for many feed merchandisers.

BIG CHIEF
Pit Augers • Elevator Legs • Mixers • Scalpers • Graders • Earcorn Crushers • Steel Bins



Hammer Mills 50 to 150 H.P.

Corn Cutters

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MANUFACTURERS OF QUALITY MILLING EQUIPMENT SINCE 1930

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start
for any feed business is a modern

FEED MERCHANDISING CENTER

Outgrowing your present sacked feed business? Beginning to think in terms of custom mixing and handling feed in bulk to stay successfully competitive?

Then a Feed Merchandising Center with efficient mixing, bulk storage and handling facilities can be just what you need. And, by planning your center with pre-engineered Butler components you get started quickly, without a high, fixed-cost investment.

You can order your buildings, tanks and bins from just one dependable, experienced source – Butler. You save shopping around and planning time. Butler pre-engineering and mass-production economies eliminate much costly custom fabrication and speed-up construction. And these top quality metal structures assure safest storage and fast handling at low annual operating costs.

Write today for Butler's new Feed Merchandising Center Idea Book and get more information on this modern way to get started in a more profitable feed business.

CELEBRATING 60 YEARS
BUTLER
FABRICATING METALS

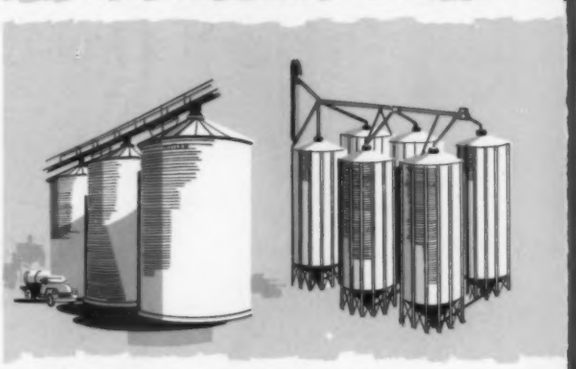
Turn the page for further details

Butler Buildings—Butler metal buildings fit every need. Want an attractive showcase salesroom? Simply specify Butler panels in beautiful, factory-applied Butler-Tone™ colors. Or if you prefer, the load-bearing rigid frame lets you use glass, brick or other materials to create decorative walls at low cost.

If you want to start more simply, Butler all-metal buildings provide excellent warehousing, big capacity grain storage or feed mixing facilities. The wide, clear-span interiors permit maximum flexibility in planning interior space. And there are no overhead trusses to interfere with stacking merchandise or conveying and mixing equipment.

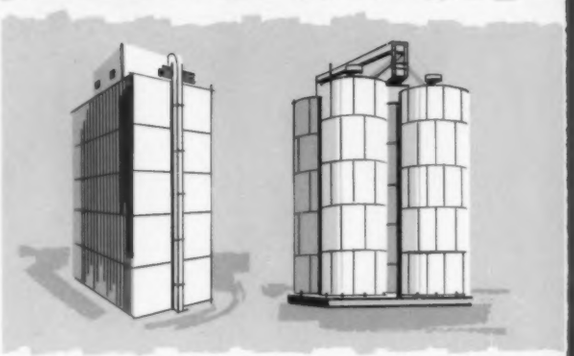
Butler Giant Bins and Stor-O-Matic Tanks—Butler Giant bins are the perfect, low-cost answer for annex storage. Available in capacities from 3,600 to 36,390 bushels, they make it easy for you to separate different types and grades of grain. You get weathertight, firesafe storage at lowest cost per bushel.

Stor-O-Matic tanks are real working bins. The hopper bottom can be equipped with a discharge auger for fast, economical grain unloading. Available in capacities from 5,845 to 9,242 bushels, Stor-O-Matic tanks are a perfect way to provide self-unloading storage facilities.



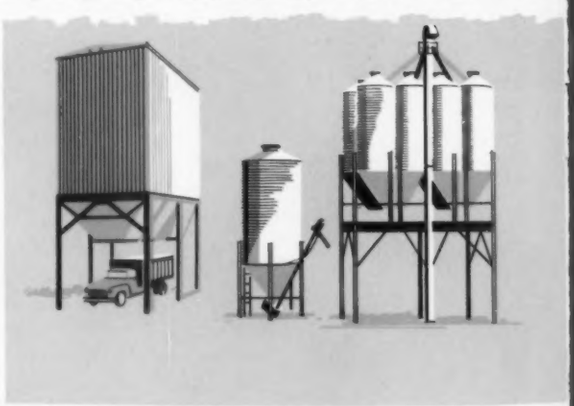
Butler Round or Square Bolted Tanks—Butler bolted steel tanks offer the finest, most dependable vertical storage for grain or feed. Round tanks are available in many diameters, heights and capacities up to 123,365 bushels. Firesafe, all-metal construction keeps insurance and maintenance costs down. Expansion is fast and economical.

The new Butler square bolted tanks provide maximum storage capacity in a minimum of space. Individual tanks fit flush with their neighbors or with existing walls. Easily compartmented, they are ideal for handling feed and feed ingredients.



Butler Bulk-O-Matic® and Square Bins – Butler Bulk-O-Matic tanks provide ideal storage for small to medium quantities of finished feeds or feed ingredients. The new, exclusive Live-Bottom Hopper with internal auger assures fast, positive clean-out of even difficult-to-handle ingredients. Capacities from 2 to 87 tons. Square tanks in the new space saving shape make excellent over-the-drive load-out or receiving facilities. A complete package including structurals, hoppers, tanks and roof deck is available for fast, economical erection in capacities from 1 to 50 tons.

Augers, elevators, belt and screw conveyors are available to complete Butler tanks and bins into efficient, push-button controlled facilities.



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Factories at Kansas City, Missouri • Minneapolis, Minnesota • Galesburg, Illinois • Richmond, California • Birmingham, Alabama • Houston, Texas • Burlington, Ontario, Canada

SELLIN' SAM — By Jim Zilverberg

"This is the plan. You go in and demand Family Feed or nothing, and then stomp out in a rage—that's where I come in!"

Two Feeding Contracts Popular in Ontario

GUELPH, ONTARIO — Two types of beef feeding contracts are popular among Ontario farmers, according to P. A. Wright, Ontario Agriculture College economist. They are the gain-in-weight contract and the fee-per-head-per-day contract.

Mr. Wright says that from the feeder's standpoint both offer less risk than the guaranteed margin, the sharing or incentive contract.

The gain-in-weight contract pays the feeders on the basis of the gain in weight put on the cattle at an agreed price or so many dollars per hundred, says Mr. Wright.

Mr. Wright says that this type of contract has declined in popularity somewhat since it tends to result in poor owner-feeder relations. The feeding period is seldom stipulated in such contracts and, of course, the longer the feeding period the greater the cost of the gains, he pointed out. There have also been difficulties over weighing conditions. The amount of fill or shrinkage when weighing animals in and out of feedlot is important to both the farmer and the owner.

Under the fee-per-head-per-day contract the feeder is merely selling feed and providing yardage and labor service for a flat fee, Mr. Wright explains. The feeder doesn't assume any risk. The feeder doesn't normally guarantee gains or a limit on the cost of gain but he does try to get fast, economical gains for the owner, according to Mr. Wright.

Under the latter plan, the owner furnishes the cattle delivered to the feedlot and moves them from the feedlot when finished. He determines the length of feeding. The owner usually pays for all veterinary services and the costs are included in the monthly or twice-monthly feed statement sent him by the feeder. The owner assumes all death losses and other risks. He may be required to pay bills on a monthly basis.

The feeder is usually allowed to pick the ration since he usually has the most knowledge of what type ration to feed for best results, Mr. Wright said. The feeder retains the manure.

"Any of the contracts are good," stresses Mr. Wright, "if they are written to serve the purpose and intent of both parties. A good contract is one that doesn't take advantage of either party and is mutually agreed upon."

AVI Expansion Set

LITTLE ROCK—Arkansas Valley Industries, Inc., Dardanelle, has opened a poultry distribution office here and is constructing two retail poultry outlets in the Little Rock area.

One of the stores will be in Little Rock, and the other will be located in North Little Rock. Pete Fox, Jr., formerly associated with Fox DeLuxe Foods, Inc., Dardanelle, is manager of the distribution center.

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ESTABLISHED IN 1900
'60 BONUS BONANZA!
NEW BIG PRIZES ON ALL PRODUCTS
$69.95 Elgin Watches!
Automatic Can Openers!
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DEALERS! DISTRIBUTORS! NEW PROFIT OPPORTUNITY
WRITE TODAY! for your BONUS PRIZE BROCHURE!
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ESTABLISHED IN 1900
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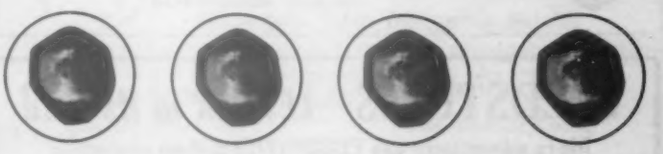
Micro-Pen®

Procaine Penicillin G in smaller crystals...specially coated to maintain stability under extreme conditions

More and more feed manufacturers are finding that Micro-Pen offers an excellent solution for the problems of dispersion and stability.

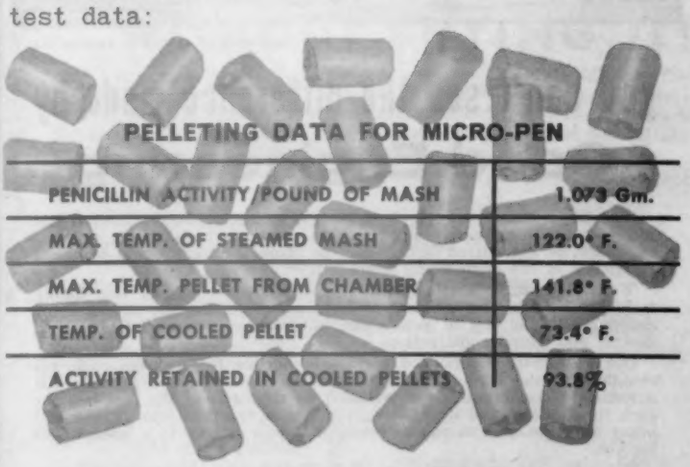
Micro-Pen crystals are about one-fourth the size of ordinary feed-grade penicillin crystals, and thus, they disperse more uniformly throughout the ration.



The potency of each minute crystal is given a longer life by a unique manufacturing method that fully coats each and every crystal... protecting it from the effects of heat, moisture, and pressure.

Actual pelleting test confirms excellent stability of Micro-Pen:

A 500-lb. batch of basal broiler ration with Micro-Pen was pelleted. Feed samples were collected in triplicate for penicillin assays. Temperatures were recorded at the following times: 1) before pelleting, 2) immediately after the hot pellets were taken from the pelleting chamber, and 3) at the time the cooled pellets were bagged. Here is the actual test data:



PELLETING DATA FOR MICRO-PEN

PENICILLIN ACTIVITY/POUND OF MASH	1.073 Gm.
MAX. TEMP. OF STEAMED MASH	122.0° F.
MAX. TEMP. PELLET FROM CHAMBER	141.8° F.
TEMP. OF COOLED PELLET	73.4° F.
ACTIVITY RETAINED IN COOLED PELLETS	93.8%

For more research data, write...

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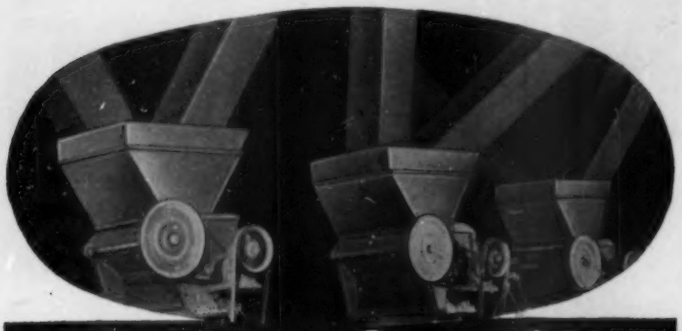

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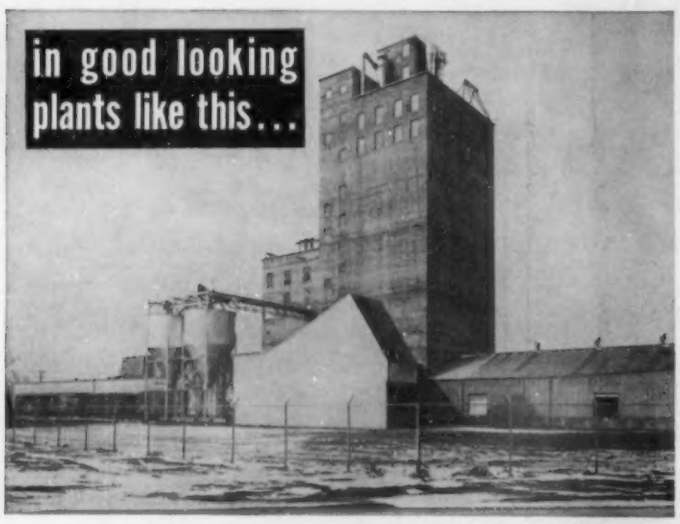

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Good Engineering

Sometimes things may look about the same on the surface. What really counts in the design and construction of any bulk storage, processing plant, or specialized facility are the ideas, experience, and technical excellence of the engineering behind them.

Weitz-Hettelsater Engineers have specialized in serving this highly technical industry for more than forty years, setting the standard for development and use of new ideas, imaginative engineering, advanced design, and sound construction.

Our engineers, experienced specialists in this field, design each job complete to the last detail for economical, reliable construction. All materials and equipment are specified on the basis of the best buy for each function without bias to any product or manufacturer. These and many other features of our engineering service add up to a better plant for you.

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ZINC

In Practical Rations

"Zinc requirements for farm birds and animals are higher than had been previously believed."

By Dr. R. C. Klussendorf
Commercial Solvents Corp.

The value of supplemental zinc in the practical rations for farm animals was unrecognized for many years because much of the early work was done with rats. (3) It was shown (36) that zinc is an essential element, but very stringent steps were necessary to demonstrate its indispensability. It was long assumed that these same measures would be needed to show deficiencies in farm animals, and that practical rations fed under usual conditions would always supply zinc in ample amounts.

No progress was made until the fallacy of this assumption was shown by work with the mineral fractions of certain growth factors for chickens (21, 23, 25, 33, 37, 39, 45) and turkeys and with parakeratosis in pigs. (1, 9, 10, 40)

A study of the rations being fed to experimental animals showed that some of these contained as little as 18 ppm. of total ration (18) and that zinc alone could account for contradictory results in different laboratories or even in the same laboratory at different times. Such study also revealed a wide variation in zinc content of the several types of "purified" protein (20, 22, 31, 32), and this again pointed out a reason for failure to verify previous results.

The study then progressed to minimum requirements and it soon became evident that these varied not only with the species under study, but with the age of the experimental animal. In general, the requirements were much higher than most workers had assumed them to be (22).

Finally, a thorough review of the zinc supplied by various feeds commonly used in formulating practical rations shows (see accompanying "Tables of Feed Composition") that, again, the variability is such that many rations are marginal in zinc, some are so low that feed utilization is suppressed, and a few will produce frank manifestations of deficiency. In fact, the relative ease with which symptoms of zinc deficiency are produced in chicks, poults and pigs is surprising and unexpected (22).

Dr. Klussendorf

AUTHOR—Dr. R. C. Klussendorf, author of this discussion of zinc and its role in animal nutrition, is director of Commercial Solvents Corp.'s veterinary medical services at Terre Haute, Ind. Presentation of the article was first made as a talk during the Oct. 5-7 Texas Nutrition Conference.

THE FEED AND ZINC—One reason for variability of results was found in the ration ingredients, and the absorbability of the zinc which they contain. Take protein for example. Even when using a presumably standard product like Drackett protein, the zinc content is so variable (7) that presumably identical rations produce contradictory results.

When soybean meal is fed, even greater differences are observed (22). Some meals contain zinc on chemical analysis which is only partially available to chicks and poults. Autoclaving makes much of this zinc available (14), and complicates the problem because it becomes necessary to know the degree of heat to which

Tables of Feed Composition (NAS-NRC Publication 659)

Basal Feeds	Zinc Mg./Lb.
Barley (U.S.)	
All analyses	7.8
Beet pulp, dried	.3
Buckwheat grains	
All analyses	4.5
Citrus molasses	40.4
Citrus pulp, dried	6.6
Corn grain	
Dent, all analyses	8.9
Dent soft, all analyses	
Grade No. 2	12.2
Dent, white	12.2
Dent, yellow, all analyses	5.5
Millet grain, all analyses	7.0
Rice grain, all analyses	.9
Polished	.9
Rice bran, unspec.	13.6
Rye grain, all analyses	15.6
Sorghum grain	
All analyses	7.0
Wheat (U.S.)	
All analyses	7.8
Protein Supplements	
Safflower o.m., exp.	18.1
Brewers dried yeast	17.6
Citrus seed meal	3.4
Soybean flour solvent	9.1
Yeast, torula, dried	45.1
Shark	51.1
Fish solubles, condensed	17.4
Misc. Additives—Mineral Supplements	
Bonemeal, steamed	193.8
Dry Roughages—Legume Hays	
Alfalfa hay (all analyses)	7.7
Alfalfa meal, all analyses	
Dehydrated	15.90
Clover hay, (all analyses)	7.90
Ladino, all analyses	7.7
Lespedeza hay (all analyses)	13.3
Red top (all analyses)	7.8
Soybean hay, all analyses	10.9

Dry Roughages—Grass and Cereal Hays	Mg./Lb.
Brome hay, all analyses	
Smooth, all analyses	7.9
Orchardgrass hay, all analyses	8.2
Red top hay, all analyses	8.1
Timothy hay, all analyses	7.7
Wheatgrass hay, all analyses	
Slender, all analyses	.8
Early bloom	.8
Dry Roughages—Straw, Fodders, Stovers, Vines, Stems, Hulls, Etc.	
Beet pulp, dried	.3
Cottonseed hulls	10.0
Succulent Roughages—Silages	
Corn, all analyses	9.5
Succulent Roughages—Pasture and Soiling Crops	
Alfalfa forage, all analyses	8.0
First cutting	9.0
Second cutting	14.0
Half bloom	10.7
Full bloom	6.4
Kentucky, all analyses	7.7
Bluegrass forage, Kentucky	
Very mature	77.3
Clover forage, Alsike, all analyses	27.3
Ladino, all analyses	17.5
Orchardgrass forage, all analyses	11.1
Sweetclover forage, all analyses	
Full bloom	22.7
Misc. Additives—Vitamin Sources and Condiments	
Brewers yeast, dried	17.6
Citrus molasses	40.4
Fish solubles, condensed	17.4
Yeast, brewers dried	17.6
Yeast, torula dried	45.1

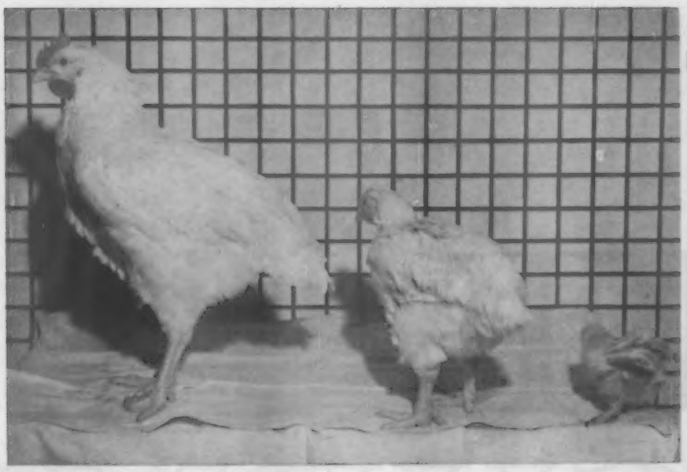

EXHIBIT 1—Results of test involving deficient and adequate zinc levels are shown here. Chick at left was fed basal experimental ration (which contained only 6 ppm. zinc) plus 34 ppm. zinc in a supplement containing a polypeptide antibiotic and a primary fermentation base. The bird weighed 1,440 gm. at 9 weeks. Chick at right, also 9 weeks old, was fed only the basal ration (only 6 ppm. zinc). It weighed only 432 gm. at 9 weeks. Center bird illustrates that zinc deficiency can be reversed. It was given on zinc-deficient ration (6 ppm.) during first 4 weeks, then on the supplemented ration (34 ppm.) during final 5 weeks. Weight at 9 weeks was 965 gm.

a soybean meal has been subjected.

When casein is the protein used, it may carry less zinc (chemical analysis) than does soybean meal, but all of it appears to be available (32). In some tests with equivalent protein levels from soybean meal and from casein, a wide variation in results is reported (22) and response to supplemental zinc is not in accord with the zinc found on chemical assay of the ration.

Other proteins have been studied less extensively, and their zinc potentialities have been less clearly defined.

Although the protein supplement is the chief source of zinc (6), other ingredients of the ration must also be considered, since they do contain variable amounts and can affect the total zinc intake and thereby the final result of a feeding trial.

Containers Make a Difference

Some trials have shown that results of a test may be altered simply by mixing one portion of the ration in stainless steel or aluminum and feeding it from utensils of stainless steel, aluminum, glass, or plastic; while another portion is mixed in and fed from the usual types of galvanized equipment (44).

Trials have also shown that the type of ration can alter the need or availability of zinc. For example, a response to supplemental zinc was more apparent with a low energy-low protein ration (6) than with a modern ration containing more energy and more protein. Zinc is also readily available from some salts, and unavailable from others (5).

The amount of mineral, and especially of calcium, present in the ration has been mentioned repeatedly (10, 17, 22, 25, 33). Some workers believe that high calcium levels tend to combine with zinc to form an insoluble compound (24, 31), but not all tests agree (43). What other factors may be involved remains to be determined.

The form in which zinc is supplied may prove to be highly important. On one test (8) the zinc in casein was 84% available, that in zinc carbonate 51%, and that in soybean protein 44%. Peas (11) and soybean (24) oil meal fed raw or lightly heated seem to contain zinc which is biologically unavailable. Casein, on the other hand, contains less zinc but is more effective (8) because all of it appears to be readily available. Certain other organic zinc compounds found in an antibiotic supplement containing a polypeptide in a fermentation base (Baciferm, zinc bacitracin feed supplement, Commercial Solvents Corp.) also appear to be readily and totally available (27). However, in another test (32) supplemental zinc improved rate of growth even when distillers solubles, dried whey, and fish solubles were already present in the ration.

THE WATER AND ZINC—Another reason for variability of results when presumably identical rations were used at different stations is the zinc in drinking water.

Although most water has a very low zinc content (as it occurs in nature) this is by no means always true, and great variations can occur before it finally becomes available

(Turn to page 42)

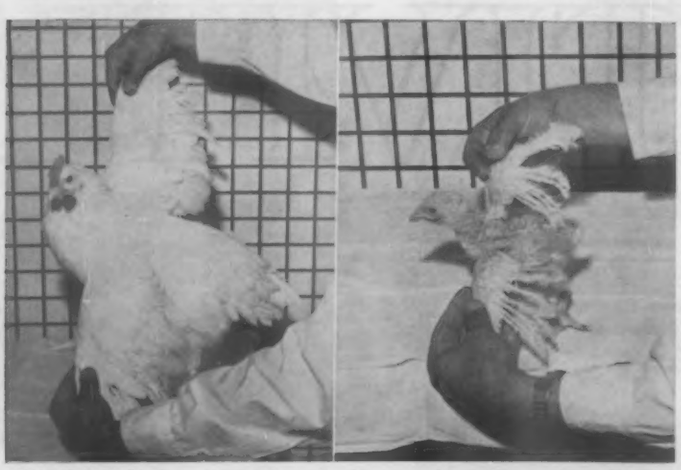

EXHIBIT 2—These pictures demonstrate zinc deficiency symptoms in bones and feathers of chicks. Ration fed bird at left was supplemented with 40 ppm. zinc. Bird at right received only 6 ppm. Both pictures were taken at end of 9-week test period.

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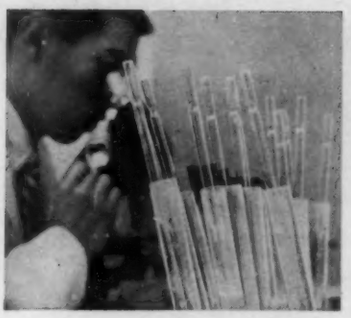

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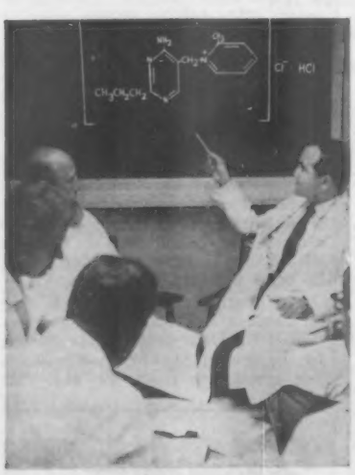

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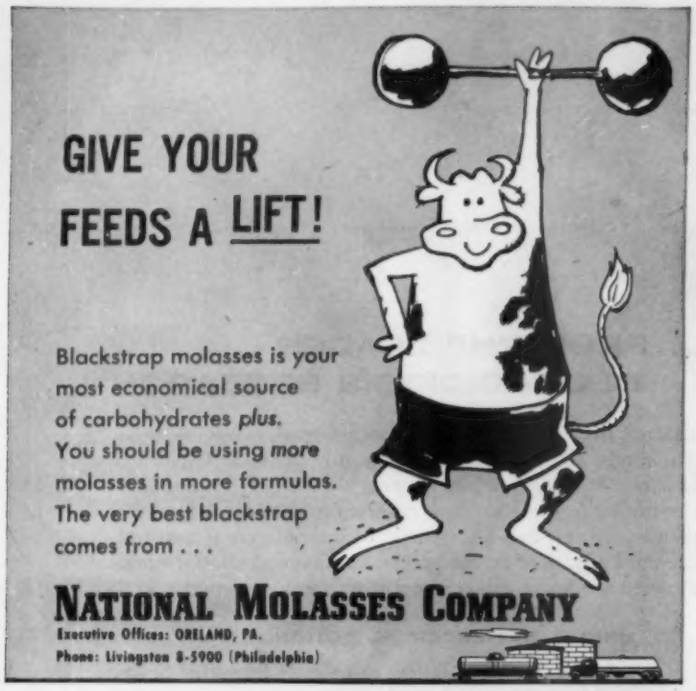
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to the bird or animal. In some tests (34), the results have differed when tap water was compared with demineralized water and with glass-distilled water.

The length of time that water stands in a galvanized tank, or pipe, or fountain can be a factor of sufficient importance to distort the results of and conclusions from a feeding trial. Even the age of the galvanized utensils may be a factor, since at least one test indicates that more zinc was dissolved from old equipment than from new (25).

In one test (7), water was delivered to all lots through galvanized pipes. In the routine of morning chores, however, one battery was consistently watered first—thus getting (regularly) the water which had stood in the pipes overnight. This particular lot of chicks was not consistent with others in the test, and the workers concluded, after assaying the water, that the extra zinc dissolved during the night hours was the cause of the inconsistency.

In another test (19), in which some groups had water from glass and plastic fountains, while others received the same water from galvanized fountains, the latter were found to be getting enough added zinc to account for 6 to 9 ppm. of the total ration. This was enough to produce a sizable increase in rate of growth.

THE EQUIPMENT AND ZINC—A factor which has frequently been overlooked is the possible effect of zinc-coated equipment, other than that which is used to prepare and provide feed and water.

Tests indicate (15, 18), however, that it can make a difference whether the birds are confined in the usual type of galvanized metal battery, or in a battery made from stainless steel, aluminum, glass, or plastic, or in one in which the galvanized metal has been covered with epoxy resin.

While such battery equipment has been studied chiefly in conjunction with feeders and fountains of similar material, there is evidence to indicate that some zinc is available from the battery itself, aside from that which comes from the feeders and fountains.

ZINC FOR CHICKENS—Numerous tests show conclusively that chickens do require zinc (4, 15, 25, 45), and that this need is of sufficient magnitude to become a factor under practical poultry-raising conditions, and with natural rations.

Marginal amounts of zinc can result in retarded growth and a general state of unthrift and poor-doing. This can be accentuated or exaggerated with experimental rations, of course, but supplemental zinc has produced a growth response in chicks fed a very simple corn-soy ration (6). Although the basal ration contained 40 ppm. zinc, a response was achieved by adding 20 ppm. of supplemental zinc.

In an experimental ration supplying only 6 ppm. in the basal (27, 28), chicks grew to only 432 gm. at nine weeks (see Exhibit 1). When grown on the same ration plus 34 ppm. zinc in a supplement containing a polypeptide antibiotic (Baciferm) and a primary fermentation base, the comparison groups weighed 1,440 gm. In this test, it was shown further that the results of zinc deficiency can be quickly nullified and reversed. Birds grown on the deficient ration (6 ppm.) during the first four weeks and then on the supplemented ration during the last five weeks weighed 965 gm.

Deficiency symptoms seen with practical rations are usually limited to the bones and feathers. (See Exhibit 2.)

The bones are affected at the epiphyseal cartilage (44), and the result is a shortening of the tibia and the tarsus, accompanied by a thickening of the shaft and an enlargement of the articular surface. The combined shortening and thickening seen in experimental cases provides rather a dramatic illustration of the effect of this disturbance in bone development. Gross and microscopic changes have been recorded (44).

Externally, the bone deformity is shown by enlargement and flattening of the hock (15), a tendency to squat (25), and in severe cases a sort of goose-stepping walk (31).

Increased respiratory rate and open-mouth breathing may also be observed (32), and are exaggerated by excitement.

Dermatosis, Parakeratosis

Dermatosis and parakeratosis of the bottoms of the feet are reported (31). These resemble the skin condition observed in pigs, but reports differ as to whether they are corrected (15, 16), or merely alleviated (35) by supplemental zinc.

The feathers show marginal zinc by reduced and improper pigmentation (24), while deficiency is evident by the development of a weak rachis and incomplete barbs (7, 31). This

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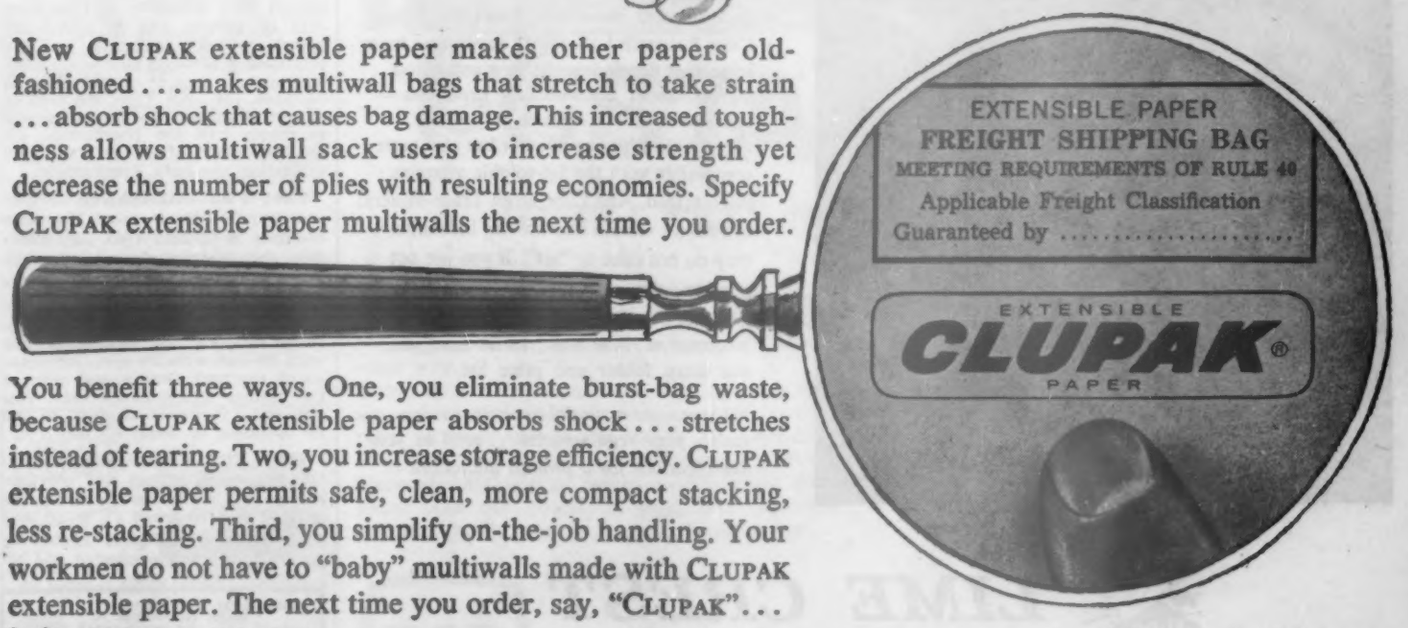

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KENT CONVENTION—Kent Feeds dealers established a platform to stand on and sell from at their own convention recently at Davenport and Waterloo, Iowa. Delegates from the state of "Gold Rush" demonstrate for their feed in the picture, following the political convention theme. Each territory manager's territory was under the banner of a different feed in the Kent line. As that feed was mentioned, the delegates put on demonstrations.

tends to give the feathers a frizzly appearance (31) and to make them stand out from the body. Upon closer examination, it is noted that there is a complete absence of barbules to hold the feathers flat and smooth.

The amount of zinc needed to assure satisfactory and/or optimum growth has been studied widely and intensively. The consensus of these reports is that the minimum requirement lies in the range of 30 to 35 ppm., and that the optimum is at least 10 ppm. higher—45 to 55 ppm.

Most of the practical rations probably contain between 30 to 45 ppm. (32), although some reports show as little as 18 ppm. (24). Most workers agree that on a ration containing 30 ppm. or less, or with an unassayed ration, an extra 10 ppm. provides excellent insurance at slight cost. This is particularly true during the first 10 to 14 days (7). Although most of the zinc in eggs is in the yolk and should be available after hatching, chicks have developed deficiency symptoms as early as the third day (7), and certainly during the first week. Moreover deutectomized (yolk sac removed) chicks showed no earlier nor greater need than intact chicks from the same hatch (7).

Requirements in Early Life

Zinc requirements are high during early life (7)—possibly as high as 55 ppm. of total ration. By the end of the second week, the need is perceptibly less, possibly down to 40 ppm.

Laying hens require comparatively little zinc. One test reports no evidence of deficiency when the ration contained only 15 ppm. (41). On an experimental ration in another test (32), supplemental zinc increased egg size by 1.5 gm., the egg production by 5.8%; but still fell short of the controls on a natural, practical ration by 1.5 gm. in size and 1.9% in rate of lay (26). Shell quality is reported to be improved by supplemental zinc (16, 32), although the mineral does not appear in the shell.

ZINC FOR TURKEYS—What has been said concerning chickens is true also of turkeys, except that the needs are decidedly higher—at least double in some cases.

Turkeys definitely require zinc in quantities which practical rations do not always supply (39). Although the usual, natural ration will probably supply 40 to 50 ppm., this is marginal, especially if much of it is in the soybean meal. This is definitely not an optimum zinc level, in fact on such a ration in one test (39) only one of 114 poults had normal feathers, and 26% had some degree of hock abnormality. Again, reports vary, but the general agreement seems to be that the optimum is around 65 ppm. (15, 33), although one worker (35) puts it as high as 100 ppm. Also, it is higher during the early weeks than in more mature stages.

Complete availability from casein (8, 22, 32) but partial binding or antagonism from soybean meal (24) or peas (11) which are raw or have been slightly heated applies here, also.

The ease with which deficiency symptoms are shown is also more striking than in chickens (38). The manifestations are much the same—retarded growth (35), abnormal bone development (15), enlarged hocks (4), feathers poorly formed (33), poorly pigmented, frizzly and ragged-looking (39).

Under practical conditions it is reported (15) that supplemental zinc proved very effective in improving rate of growth and in preventing perosis or hock lameness. Again a relationship between zinc availability and mineral content of the ration is reported (4)—this time the feeding of soft phosphate, up to that needed to supply half the phosphorus, did not adversely affect growth, feed utilization nor hock development.

ZINC FOR PHEASANTS—Pheasants require zinc in about the same amounts as turkeys (34). Leg disorders and feather abnormalities are the early signs of marginal or deficient zinc.

When the basal, natural diet contained 42 ppm., the supplementation with 10 and with 20 ppm. corrected all of the hock trouble and most of the feather abnormalities (34). This suggests a minimum of about 45 and an optimum of about 65 ppm.

ZINC FOR PIGS—Supplemental zinc for swine rations was not considered necessary nor advantageous until it was observed (1, 9, 10, 40) that the skin condition known as parakeratosis was prevented and al-

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leviated by adding zinc to very good practical rations which contained up to 44 ppm. The added zinc also improved rate of growth (1) (by as much as 83% in some pigs with skin involvement in which growth was far below normal). This suggests a minimum of at least 45, and an optimum of about 65 ppm.

Most of the swine reports indicate that zinc requirements are greater when calcium content of the ration is high (9, 10, 17, 18), indicating that a compound which is biologically unavailable is being formed. This is logical in the light of work (30) which shows that mineral supplements readily remove zinc from solutions. However, a dissenting report appears on this (43). In a carefully controlled trial, supplemental zinc increased the absorption and retention of calcium; but supplemental calcium did not exaggerate the parakeratosis nor exert a harmful effect upon absorption and retention of zinc.

Another observation from this test is that the baby pig absorbs zinc readily from the digestive tract until it weighs about 20 lb. Then it seems to absorb it much less efficiently until it weighs 50 to 55 lb. During late life it again utilizes zinc effectively.

Most reports agree that appetite, rate of growth, and efficiency of feed utilization are adversely affected when the zinc supplied by the ration is marginal or deficient (1, 10, 17, 18). Again there is a dissenting report (43).

PHYSIOLOGIC FUNCTIONS OF ZINC—The need for zinc, its distribution in the organs and tissues, and the metabolic functions which it serves in the body have been reviewed in some detail (12, 13, 42). They will therefore, be discussed very briefly.

That zinc is essential to the life and well-being of all vertebrates has long been recognized (36), even before specific functions or minimum and optimum requirements were recognized.

Reports on the metabolic role of zinc (12) show that it is rapidly absorbed and rapidly excreted by the pancreas, kidney and pituitary. It is retained by the liver (29) erythrocytes, bones, skin and hair.

The enzyme (32) and hormone (16) systems are profoundly affected by zinc. It forms a necessary part of the carbonic anhydrase molecule (32) which accounts for its effect on respiration (CO_2 exchange in the tissues and the lungs), on bone calcification and on egg shell formation (16, 32) (Calcium assimilation and metabolism).

The phosphatase molecule is affected by zinc (46)—if not directly a part of the molecule it does activate the intestinal phosphatase in the presence of amino acids.

Pancreatic amylase (46) and its relationship to proteolytic activity, is adversely affected when zinc levels are low.

Insulin synthesis and elaboration is facilitated by zinc (46), although it need not become a part of the molecule.

Estradiol is made from estrone (47), and the estrogen titers of urine increase markedly when zinc is abundant.

TOXICITY OF ZINC—Toxicity from excessive amounts of zinc is unlikely under practical conditions, because a substance or ration becomes highly unpalatable long before it becomes toxic. While the ration will normally contain 30 to 50 ppm., a total of 100 ppm. is adequate for correction of any recognized deficiency (10, 15, 32).

In the range of 800 to 1,000 ppm. the material becomes unpalatable and is eaten in ever-decreasing amounts (9, 13), while toxicity is reported at about 2,000 ppm. (2) and fatal toxicity may occur at this level in a matter of 21 days, and at higher concentrations in shorter periods. Excessive zinc is largely excreted in the feces, but may accumulate in the liver (3) where it causes a reduction in liver iron, and anemia. Toxicity is shown by massive hemorrhages in various organs and muscles (2).

SUMMARY — Summarizing briefly, then:

Zinc is essential for normal growth and health of all vertebrates and many plants.

The requirements for farm birds

(Turn to page 48)

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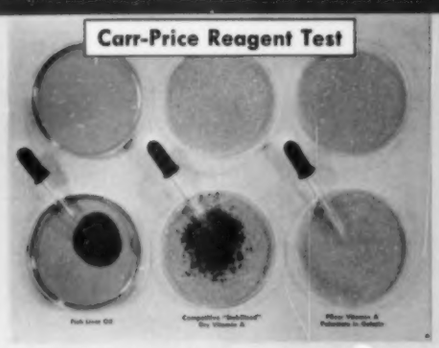

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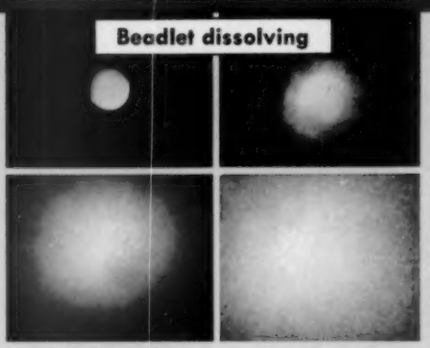

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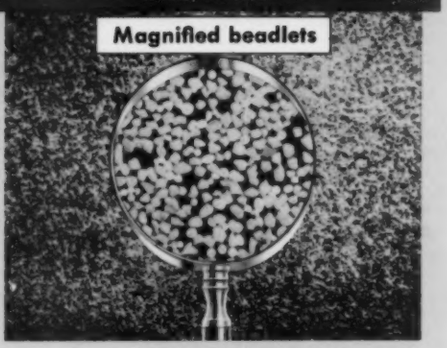

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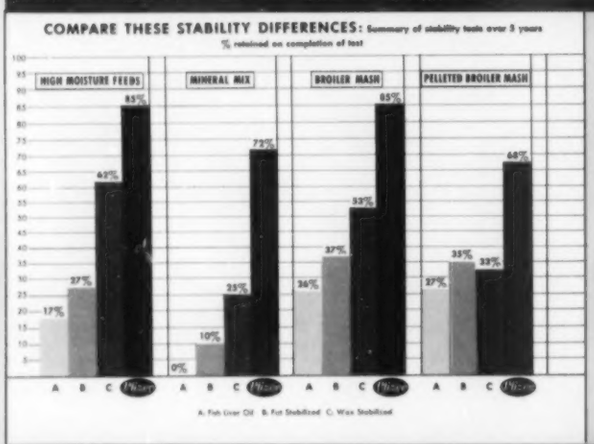
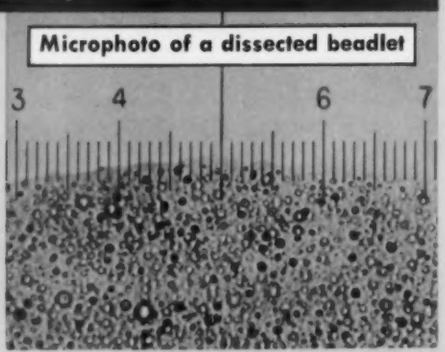


Pfizer Vitamin A retains greater potency in pelleted and high-moisture feeds, concentrates, mineral mixes, supplements, bulk feeds and range cubes. Cuts costly overfortification. Assures you of providing more vitamin A when feed is consumed.

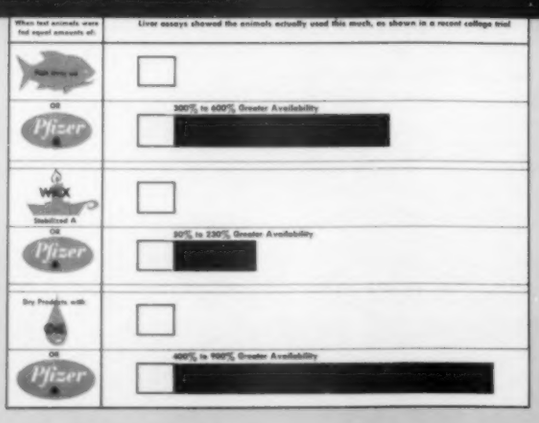
...most usable form of vitamin A



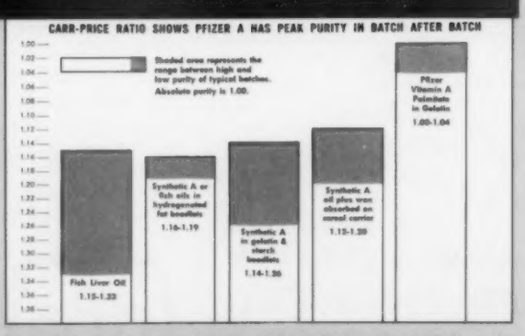
Thousands of tiny vitamin A particles in each gelatin beadlet disperse most rapidly in digestive fluids—are available for absorption at once.

...maximum biological availability

A recent college test shows Pfizer Vitamin A has availability from 300-600% greater than fish liver oils, 50-230% better than ones in wax and up to 900% greater availability than dry products with oil. Liver assay tests are the final proof of vitamin A absorption . . . show how much is assimilated and stored.



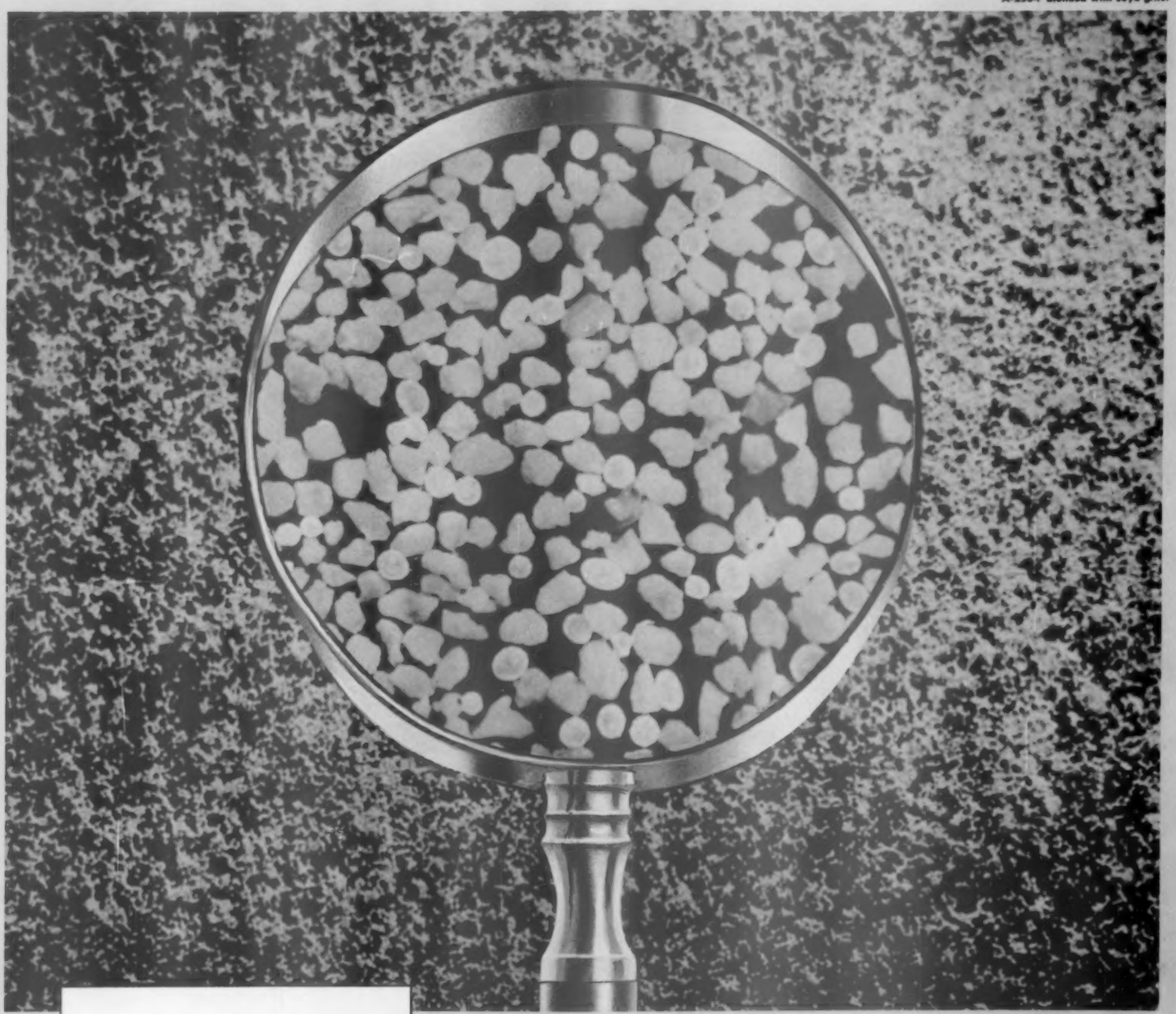
...and the highest purity


CARR-PRICE RATIO SHOWS PFIZER A HAS PEAK PURITY IN BATCH AFTER BATCH
Shaded area represents the range between high and low purity of typical batches. Absolute purity is 1.00.
Fish Liver Oil
1.15-1.23
Synthetic A or fish oils in hydrogenated fat beadlets
1.10-1.19
Synthetic A in gelatin & starch beadlets
1.14-1.26
Synthetic A oil plus wax absorbed on cereal carrier
1.12-1.20
Pfizer Vitamin A Palmitate in Gelatin
1.00-1.04

Impurities can contribute to loss of vitamin A. Pfizer, by achieving 99% purity, supplies you with vitamin A having greater stability in shipment, storage, mixing and in feed.

-Made For Better Mixing

A-230-P blended with soya grits.



Pfizer Vitamin A Palmitate in Gelatin beadlets are uniformly distributed throughout the diluent . . . essential for the best mix in feeds. Beadlets are 40-100 mesh in size, photo above is large-scale magnification.

Uniform beadlet size helps avoid an excess of vitamin A in your feed one day and a shortage the next.

The special gelatin beadlets of Pfizer Vitamin A are of a carefully selected and controlled mesh size for uniform distribution. When you supplement with Pfizer Vitamin A at practical levels, you insure sufficient beadlets in the daily feed intake. Even baby chicks will receive sufficient vitamin A during the critical early days of life.

These special gelatin beadlets help give you unsurpassed stability in all types of feed —mineral mixes . . . high-moisture feed . . . pelleted feeds . . . range cubes . . . bulk feeds for on-farm storage . . . concentrates—even with long storage.

You save more because Pfizer A delivers more.

Pfizer

Chas. Pfizer & Co., Inc.

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Vitamin A Palmitate in Gelatin

630 Flushing Ave., Brooklyn 6, N.Y. • 7600 Ambassador Row, Dallas 7, Tex. • 230 Brighton Rd., Clifton, N.J. • 6460 W. Cortland St., Chicago 35, Ill. • 1500 16th St., San Francisco 3, Calif. • 5251 Peachtree Industrial Blvd., Chamblee, Ga. • In Canada: 5330 Royalmount Rd., Montreal 9, P.Q.

SALES AWARD—Robert E. Noland of Nashville, Tenn., center, Seco sales representative for Kentucky, received the 1960 "National Sales Award" presented for the summer sales campaign. The presentation was made at an eastern divisional sales meeting at Nashville, Tenn., Aug. 27. Shown at the left is Lem Stevens, president of Seco. At the right is Paul J. Zimmerman, executive vice president of the firm. Seco manufactures mobile and stationary milling equipment, bulk feed stations and conveying systems. Theme of the sales conference was "Leadership Through Salesmanship."

and animals are higher than had been believed until recently, in fact so high that practical farm rations are often marginal and sometimes deficient.

Deficiency symptoms are produced in chickens, turkeys and pigs much more easily than had been supposed possible.

Optimum zinc requirements probably lie within the ranges shown (ppm.):

	Young	Mature
Chickens	45-55	20-35
Turkeys	65-80	40-55
Pigs	60-70	40-50

The range is provided because of variable availability of zinc from ration ingredients, from drinking water, and from type of feeders, fountains and batteries.

The physiologic functions of zinc are interlaced with mineral metabolism, the enzymes, the hormones and normal physiology.

Zinc toxicity, other than poor growth from lack of palatability, is not likely to be a problem under normal barnyard conditions.

v v

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Pierre A. Archambault

COMMISSIONER—Recent appointee to the Colorado State Agriculture Commission is Pierre A. Archambault of Denver. He replaces Richard Kintzele and his term will expire Jan. 31, 1964. As owner of the Arch Sales Co., he is a wholesale dealer in feed ingredients and is sales agent for a number of firms including Western Cottonoil Co. and Pacific Molasses Co.

Joins Farm Bureau

WASHINGTON — Marvin L. McLain, assistant secretary of agriculture, will resign his present position to become the assistant legislative director of the American Farm Bureau Federation on Dec. 1.

The announcement of the change was made by Charles B. Shuman, president of the Farm Bureau Federation. As a member of the legislative staff, Mr. McLain will work with John C. Lynn, legislative director.

Mr. McLain joined USDA in 1953 as director, grain division, Commodity Stabilization Service, and served in that position until he became assistant secretary of agriculture.

Elevator Planned

KANSAS CITY—Plans of the Simonds-Shields-Theis Grain Co. to build a new 2-million-bushel elevator along the Missouri River bank in Clay County, with a barge-loading facility and dock attached, have been reported by Frank A. Theis, president of the firm.

The elevator and dock will be located in the Randolph district, about one half mile downstream from the Chouteau highway bridge. Detailed plans are being drawn, and it is hoped to start construction in time to have it ready next spring, Mr. Theis said. No cost figures were given.

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- Capacities from 5 tons and up in single or tandem axle models.
- Closed, heavy-duty hydraulic drive system means years of trouble-free service.
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- Two or more compartments — Tarp or steel top optional.
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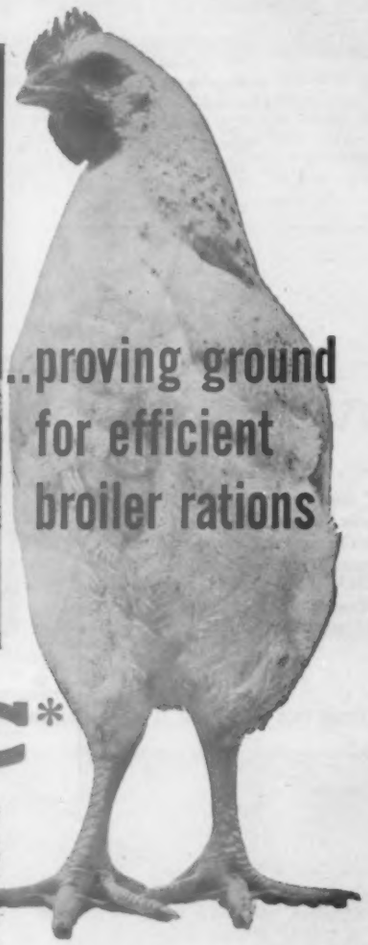

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Your broilers go to market faster, at a lower cost per pound—thanks to *proved* rations developed by your nutritionist. On his research farm and in field trials, your nutritionist constantly screens out new and better formulations. This means that your next batch of broilers will be fed out on the most efficient, research-proved rations.

One ingredient used by nutritionists is Omafac. Just 0.5% of Omafac replaces 4%-5% of crude sources of Unidentified Growth Factors, such as fish solubles (dried basis), whey, and distillers' solubles. Omafac supplies Unidentified Growth Factors at a real saving, and in addition is an excellent source of protein, calcium, phosphorus, and Vitamin B_{12}. Omafac significantly increases the antibiotic (streptomycin sulfate) content of the ration.

Omafac is produced by Squibb from dried penicillin and streptomycin residues. The analysis shown on the label is guaranteed. Omafac is always in dependable year-round supply. Write for more facts.

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Vitamin E is considered by many authorities to be an essential part of a nutritionally complete diet for chickens, turkeys, dogs, and other animals. We will be happy to send literature references on request.

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20,000 INTERNATIONAL UNITS OF VITAMIN E PER POUND

The "d" means the vitamin E in *Myvamix Vitamin E Feed Supplement* is the same stereoisomer that appears in nature. 1 milligram of *d*-alpha-tocopheryl acetate is equivalent to 1.36 International Units of Vitamin E.

The vitamin E in *Myvamix* is on a dry, non-dusting soy grits base. We use grits instead of meal because they have less fiber, less moisture, more protein, more uniform particle size, and are dusted to remove hulls and powder. All this means a higher quality product, one that's as easy to handle as anything in your mill.

With *Myvamix*, you know exactly how much vitamin E is in your feed. There's a sure 20,000 International Units of Vitamin E per pound. The cost is only a few dimes per ton of feed.

The "acetate" means that the vitamin E in *Myvamix* is really stable. Tests show no loss of potency even after storage in finished feeds for six months at 100 F. The full potency you put in the feed is there when the feed is fed.

There are at least seven tocopherols which have some vitamin E activity. The most effective biologically is "alpha." That's what is in *Myvamix Vitamin E Feed Supplement*. (Only 10 to 15% of the tocopherols in corn is "alpha"—the rest is "gamma," one of the least effective of all.)

Feed Firm Becomes One of Oregon's Big Feedlot Operators

REDMOND, ORE. — One of Oregon's largest cattle feeding operations is developing here where Carnation-Albers packing plant is producing about 1,500 tons of feed per day and feeding some 2,500 head of cattle.

Approximately 50% of the cattle are consigned by private owners for custom feeding for 120 day periods, and others are bought and sold by the plant. The year's present capacity is about 7,500 head of feeders, but this may be nearly tripled if market futures appear to warrant expansion, reports David Gage, manager.

Redmond packing plant was organized in 1948 by Jack Christenson, who was formerly from Tillamook. The plant slaughtered horses and sold the meat to dog food manufacturers. In 1954 Carnation-Albers bought the business, which Mr. Christenson managed until May of this year.

In June, 1959, the horse slaughtering was discontinued and the company began erection of a feed mill and initiated a cattle feeding program. Included in the equipment was a Sumner Foragizer to be operated on an experimental basis for manufacturing hayfers (discs of compressed alfalfa hay, grains and binder).

Mr. Gage reveals that the feeding program at the plant is a study of the feasibility of bringing cattle to the feed. In California, for instance, where he managed a similar operation, cattle were brought in from Arizona, New Mexico and Texas to the feedlots. Central Oregon has the cattle but not all of the commodities to feed them, he commented.

Bob Brownell supervises the feed mill. The plant buys some 2,000 tons of alfalfa hay per year, around 7,000 tons of barley from the Burns area, quantities of milo from Texas, corn from Nebraska, molasses from San Francisco and other commodities in lesser quantities. The mixed feed has an 80% concentrate ratio. Mr. Gage said that it seems to be economically feasible to import the feed components, but adds that in time attention may be given to producing more of the commodities locally and making better use of what is being raised on the land.

The plant also manufactures and ships about 40 tons of timothy and alfalfa hayfers per month for chinchilla consumption. This is shipped to chinchilla raisers in the East, some as far away as Florida.

Dannen Mills Creates Field Auditor Post

ST. JOSEPH—Dannen Mills, Inc., has named Milton Wilke to the newly-created post of field auditor, according to announcement.

Milton Wilke

Mr. Wilke comes to Dannen from Archer-Daniels-Midland Co., Minneapolis, where he was credit manager of the feed department. Previous to that Mr. Wilke was with the Quaker Oats Co.; credit manager for Honeggers' & Co., Fairbury, Ill., and credit manager for Hales & Hunter, Chicago.

In his new post, Mr. Wilke will audit feed warehouses and warehousing points in the Great Plains region with the exception of Dannen installations in St. Joseph.

PRIZE WINNING DISPLAY—The Pillsbury exhibit, prepared by Tifton (Ga.) Feed & Milling Co., won third place in commercial classification competition at the Coastal Plain Fair held recently in Tifton. The display included a pen of five purebred Spotted Poland China hogs raised in Georgia. James Lindsey, Tifton Feed & Milling Co., is shown explaining to fair-goers the merits of meat-type hogs, and the necessity for high-quality, well-balanced feeds.

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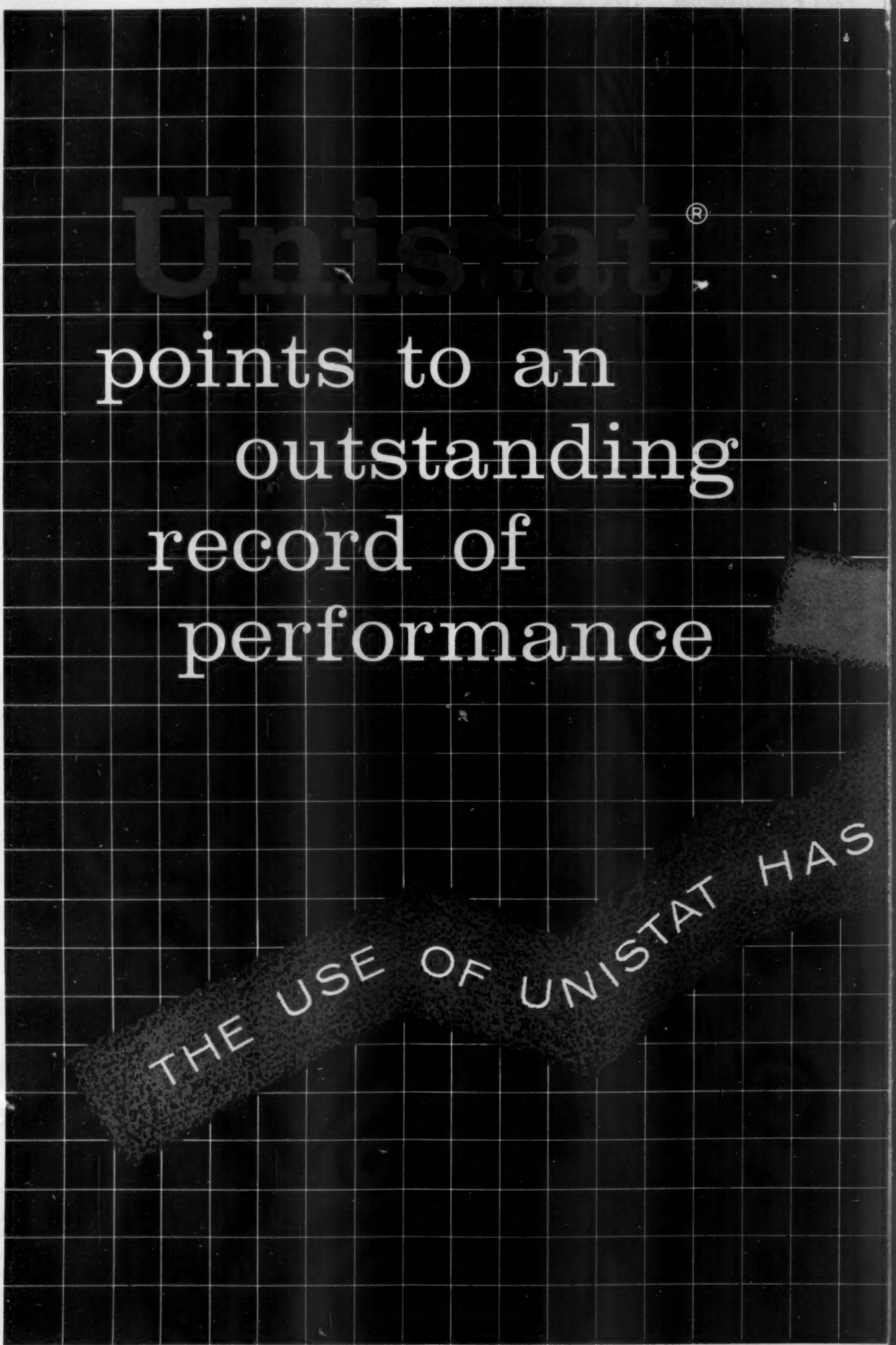
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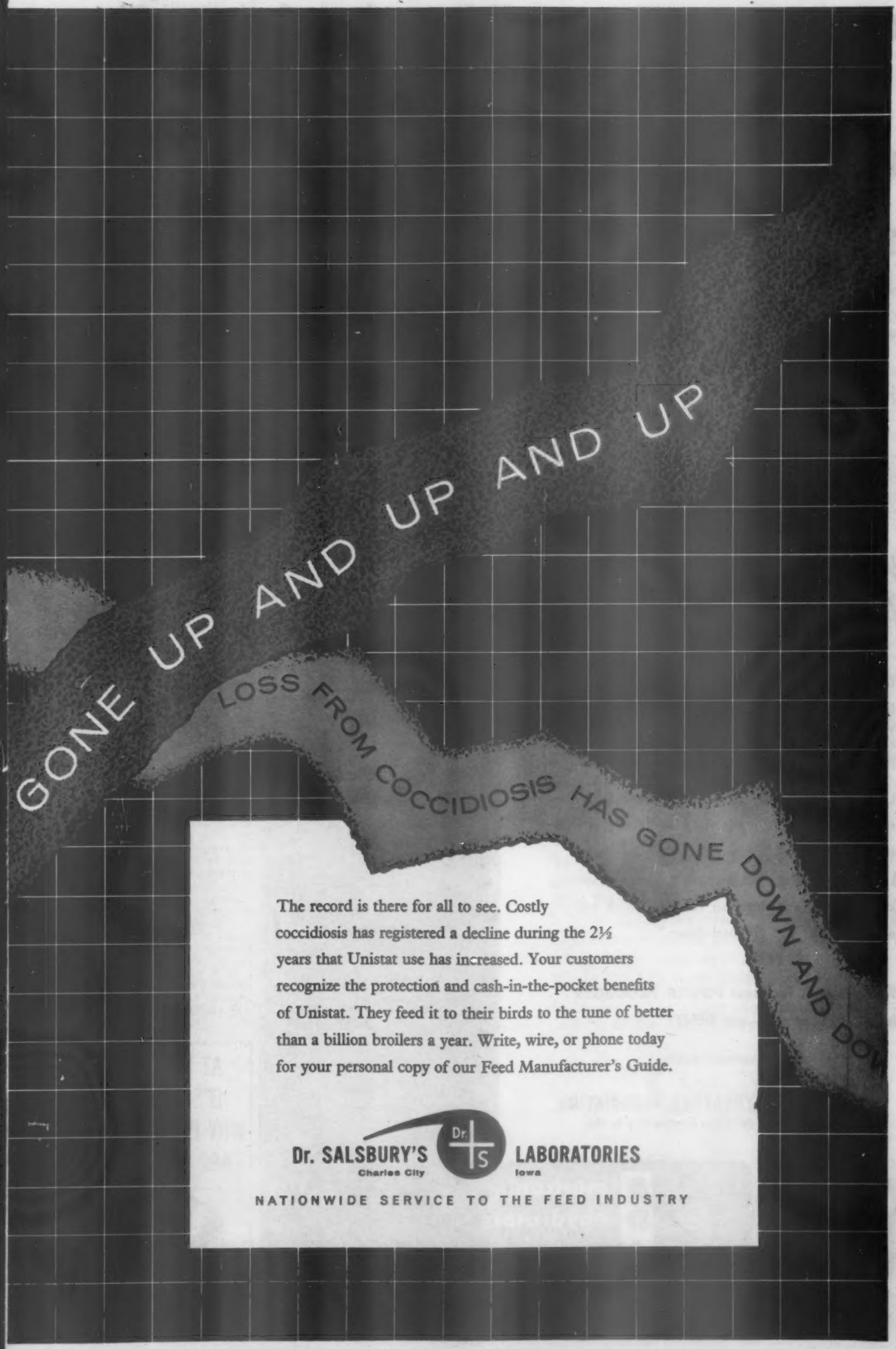

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Contract Grower Continues to Play Major Role in Texas, Arkansas

By Jess Blair
Feedstuffs Special Writer

Broiler growing in east Texas and Arkansas has become a gigantic business, with only a few big companies left in it. Yet the number of birds continues to increase as dealers become larger and advance further into integration.

Despite the tightening of control by most of the larger companies, however, the farm contract grower is still a key figure in the industry. The grower who has taken instruction willingly and worked hard at the job has no fear of being discarded by the major companies.

"The integrated dealers in this area are depending almost entirely upon farm growers, or independent contractors, as some dealers prefer to call them," said Henry Thomason, former manager of the Arkansas Poultry Exchange at Springdale, Ark.

"I think we have seen the end of the big companies that put up their own buildings. The cost is almost prohibitive, since the land and housing for 30,000 broilers would cost as many dollars. Most dealers prefer to use this money to add more broilers to existing facilities."

Types of Contracts

With more dependence being put upon the independent contractor, most companies are taking a closer look at the different types of contracts in use, and have come up with a few new ones. One of these is where the company leases the houses and equipment on a yearly basis, and pays the farmer 1½¢ to 2¢ per bird. With this type of contract, the company does all the work of tending to the birds.

A few of these leases have been made in east Texas and Arkansas, but the practice doesn't seem to be expanding much.

"The reason we don't like to lease poultry houses is because a farmer will usually do a better job than someone we put out there," said Dick Wright, vice president of the Lone Star Feed Co. at Nacogdoches, Texas. "Poor management is the bane of the industry, and in feeding out around 6 million broilers a year, we find there are seldom enough good managers in the area."

This same attitude prevails in much of Arkansas. Most companies think that a good farm manager will do a better job than someone who has never had any experience or does not have the knack of tending to chickens.

The main types of contracts being used are the same ones that have been popular for years, though there are some alterations. The independent contractor usually ends up with from 5¢ to 6¢ per bird, no matter how the contract is written.

One company which has several types of contracts is the Jeff D. Brown Co., Inc. of Springdale, Ark. Mr. Brown has a feed conversion clause in his contracts, letting the better growers make more money. A grower who can get a conversion of 1 lb. of broiler for 2½ lb. of feed is paid 6¢ for each marketable bird. If he gets a 2.45 feed conversion, he makes 6¼¢ per bird, and for a 2.40

(Turn to page 57)

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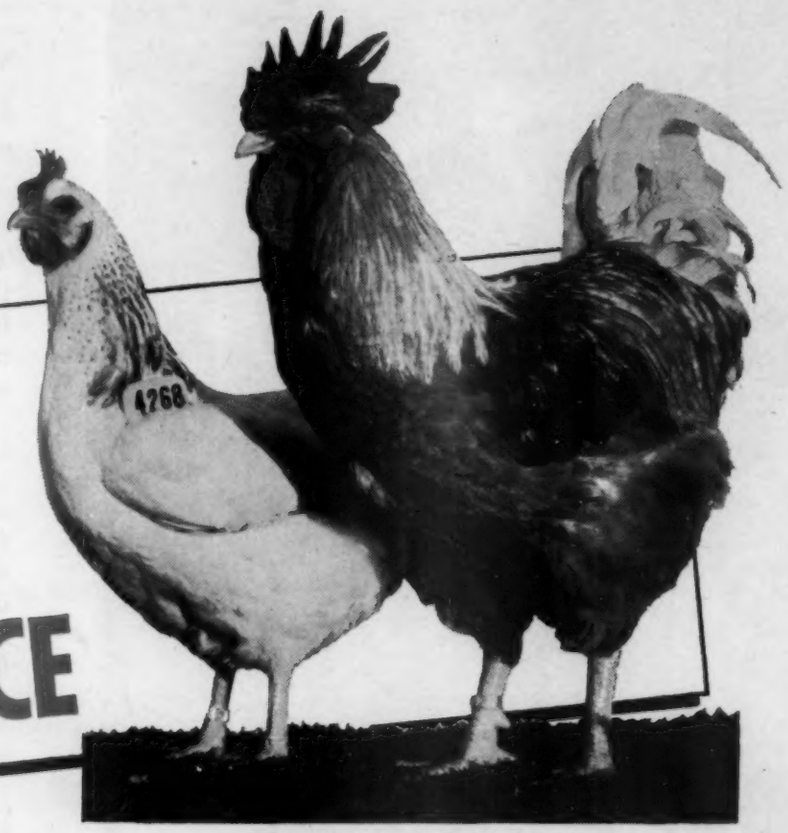

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conversion the pay in raised to 6½¢.

"The conversion factors always stay in," said Mr. Brown, "but the first price may be changed. Last fall, when prices were so low, we had a 5¢ guarantee."

Share Net Profit

Another type of contract is where the independent contractor pays part of the production costs and gets half the net profit. This contract does not seem too popular with many growers.

"We have very little control over the growing expenses," said a farmer in east Texas. "The company can add a lot of hidden expenses on their baby chicks, the feed and medication. A dealer can raise the price of feed a few dollars a ton, and we have no way of proving it's too high."

One dealer admitted that this was true. He said it was a common practice in his area, but the cost of production was set in such a manner that both the dealer and grower would make a reasonable profit.

A more common practice is where the grower pays all production costs and is guaranteed a certain price for the broilers. In these cases, the feed dealer is selling chicks, feed and medication and does not control the management or the sale of the birds.

One Arkansas firm has several growers on this type of contract. The company guarantees the farmer 19¢ lb. for each bird marketed, and must make its profit from the sale of birds and feed.

"This is not a good contract for the poor manager," said the company's vice president. "Most of our contractors taking this type of deal are people who have the ability and facilities to make more money. This last year, we had a few who made from $20,000 to $30,000 for their work. I might add, however, these are the top-notchers who have large houses and plenty of know-how."

Choose Top Men

Some farm contractors in Arkansas are now tending as many as 30,000 birds or more. Most dealers are not seeking new growers but pick out the better managers and help them increase the facilities. The farmer puts up his own houses with his own or borrowed money, but the feed companies help finance the movable equipment.

"The farm grower has come of age in this state," said an Arkansas dealer. "Many of them have made money on their contracts, and devote full-time to the business. At no time in the foreseeable future do we expect the farm grower to be dropped by the large companies. However, he must be a good one, because after a few bunches of poor birds, no one will take him."

This third year is the critical one for most growers, says Jeff Brown. By that time, the man has learned quite a lot about managing broilers, but he has also picked up a few ideas of his own.

Sometimes these have come from outside sources and do not jibe with company policy. If the grower can be straightened out in his thinking, the company continues to work with him. Otherwise he is dropped.

To take care of these cases, most dealers now write contracts for only one bunch of birds at a time. They may also want to lower or raise the guaranteed price in accordance with the market, and need to be free to amend the contract.

Most of the contract growers who have been in the business for years now have a large investment in buildings and equipment, and cannot afford to disagree on management practices. Nine times out of ten the dealer will be right, because he has an experienced staff of poultry experts and nutritionists and has gained a wealth of knowledge in the business.

It might be pointed out that there are no incompetent dealers left. The ones still in business are those who weathered the tough years and have continued to enlarge their plants. The in-and-outers are all out now, and except for a few national feed and cannery companies, no one else is getting into the business.

One evidence of this is the fact that in east Texas, less than 2% of the broilers are grown by independent farm growers. Everything is integrated in one form or another, and the only place for the small farm poultryman in the business is to sign a contract with some large company.

A few years ago, there was a possibility that the farm grower might be eliminated altogether, but now the trend is all in his favor—providing he continues to do a good job and makes money for his "bosses."

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FLEA-KILLING CHEMICALS IDENTIFIED

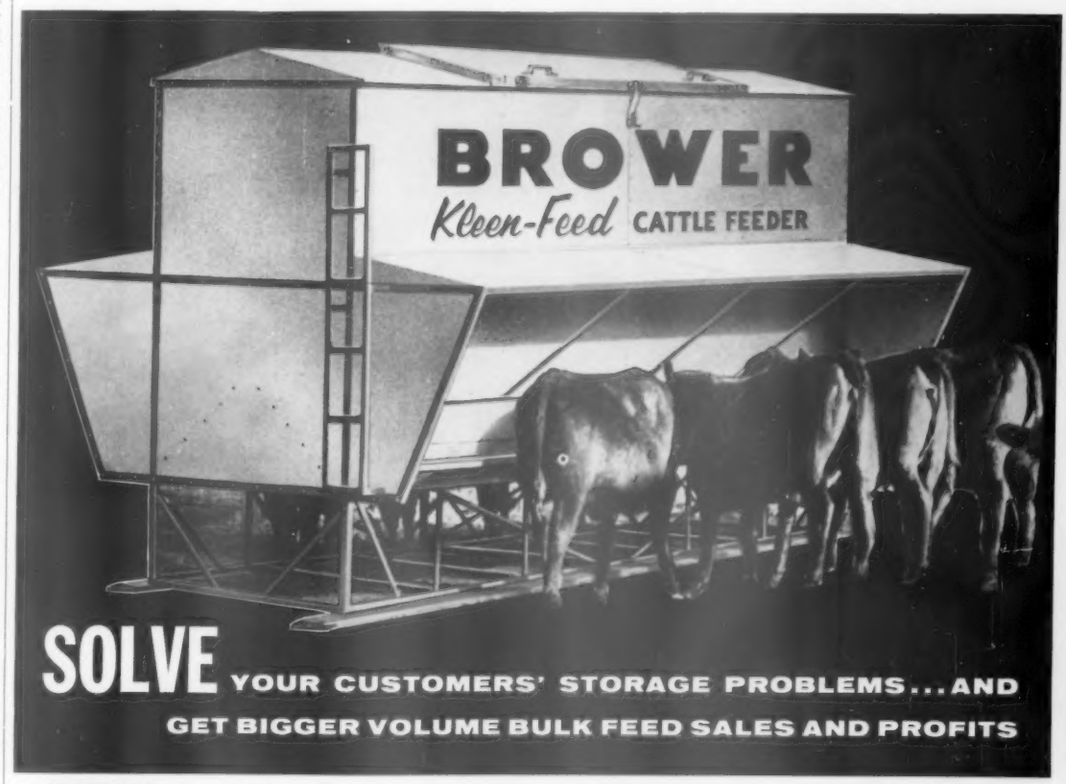
CORVALLIS, ORE.—About two months ago Oregon State College announced that its department of entomology was experimenting with a chemical treatment for dog food which showed promise of ridding dogs of fleas (Feedstuffs, Sept. 24).

Since then, it has been reported that the two chemicals employed in the experiments are Ruelene and ronnel, both produced by Dow Chemical Co., Midland, Mich.

Dr. R. L. Goulding, Oregon State entomologist, explains that both of the chemicals used in the dog tests are currently in use either on a practical scale or at a developmental level in the livestock industry for control of the ox warble (also known as cattle grub or heel fly).

"Our experience led us to believe there might be a good chance of these materials working in dog food, primarily because of the eating habits of dogs," Dr. Gould relates. "Our preliminary experiments certainly indicate we were right in this assumption, and we plan to considerably expand this line of research during the coming months."

Experiments have indicated that trial dosages of the two chemicals mixed with dog food cause no noticeable injury to dogs but kill fleas on them. The treatments enter the dog's blood stream.



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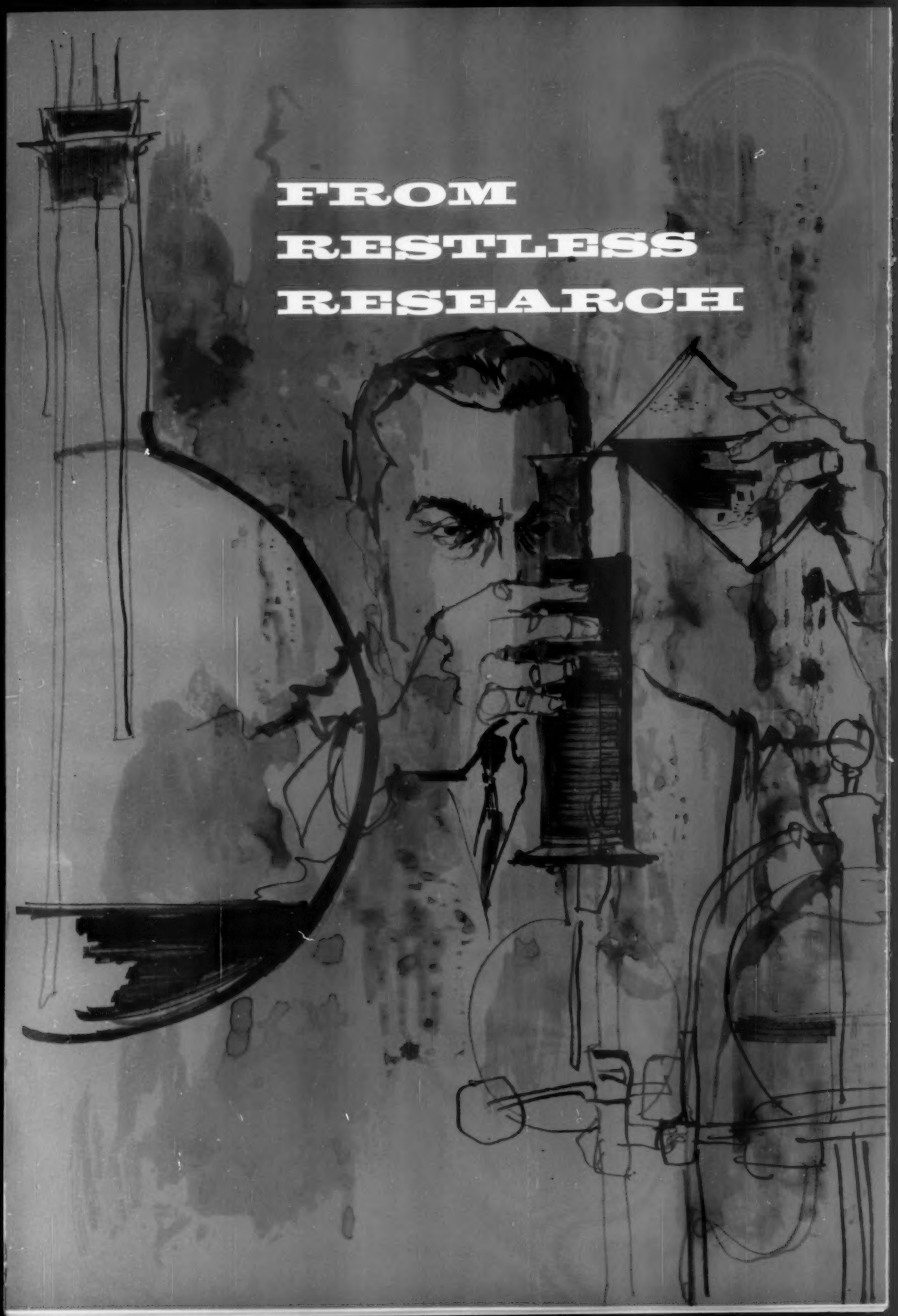

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FEED CONTROL COMMENT

By BRUCE POUNDSTONE
Secretary, Association of American Feed Control Officials
Kentucky Agricultural Experiment Station, Lexington

Simplified Names

A review of the procedure for changing the name of a feed ingredient from a long, many-syllabled chemical designation to a term that can be more quickly recognized and understood has been called for. This is accomplished by developing a new name which, for a reasonable time, is used along with the already established name in parentheses. As soon as there is "reasonable association" between the new name and the parenthetical "jaw breaker," then the old name can be dropped completely and the new one used alone. This need not take a long period of time but presumably might occupy a year or so.

To do this it is first necessary to agree on the name to be selected to replace the one in use. Once this is done it is a matter of using both terms until such time as the old one can be dropped.

At the recent meeting of the Association of American Feed Control Officials in Washington, steps were taken to apply this plan to three terms.

"ETHOXYQUIN"—The product sold under the patented trade name of Santoquin has been listed on feed tags as "1,2-Dihydro-6-Ethoxy-2,2,4-Trimethylquinoline." Sometime ago the name "Ethoxyquin" was suggested as a new common or usual name for this product. This has been adopted. For a change-over period this ingredient should appear on feed tags as follows:

"Ethoxyquin (1,2-Dihydro-6-Ethoxy-2,2,4-Trimethylquinoline)".

"BHA" AND "BHT"—The chemical preservative Butylated Hydroxyanisole has likewise been referred to using the simplified term "BHA." In the same way the preservative Butylated Hydroxy Toluene has been referred to as "BHT." Effective Jan. 1 these two ingredients may be shown on a feed tag as follows:

"BHA (Butylated Hydroxyanisole)"

"BHT (Butylated Hydroxy Toluene)"

After a reasonable time it is assumed that all of the expressions in parentheses in the above three examples will be dropped from feed tags and only the shorter, simplified terms required.

Questions are already being received by feed officials asking if we cannot immediately go to the simplified terms and drop the longer expression. The answer to this is an emphatic "no." We must use both terms until such time as it is agreed the simplified terms are sufficient alone.

Anticipating simpler terms and expressions to apply to new products not now on the market, manufacturers would do well to consider a simplified term that might be applied in advance of marketing. In other words, when a new product appears if the simplified term is ready and can be accepted there would be no need to change later from the more complicated "jaw breaker" to a simplified term. This would save a great deal of confusion.

Antibiotics in Feeds

Labeling of antibiotics in feeds for "increased weight gains and improved feed efficiency" continues to bring forth questions. If no claims of a therapeutic nature are made and the antibiotic is introduced for increased weight gains and improved feed efficiency, then this is not classified as a "medicated" product. "Medicated" should not appear on the label.

The above being true, there is no need to have the usual medicated format with a statement of purpose directly under the brand name and the active drug ingredient declared below that.

The antibiotic or antibiotics, according to the new regulations, should be declared by name in the ingredient list. There is a distinct preference on the part of feed officials to leave off any reference to the amount of antibiotic added. The thinking behind this is that all ingredients are added to a mixed feed for exactly this purpose. In other words, if that is the reason for adding antibiotics and it is guaranteed as to amount, why not guarantee everything else as to amount? Until such time as it is required that

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When material falls away from the paddle, an adjustable tension spring returns the motor and its frame to the initial position, releasing the switches and causing the motor to turn the paddle again.

For high-level indication or control, the motor runs continuously until paddle rotation is impeded by the rising level of material.

For low-level indication or control, the paddle is restrained by the material and in turn restrains switches until the material falls below the paddle. When this happens, an adjustable tension spring returns the motor assembly to the starting position, releasing the switches and again starting paddle rotation.

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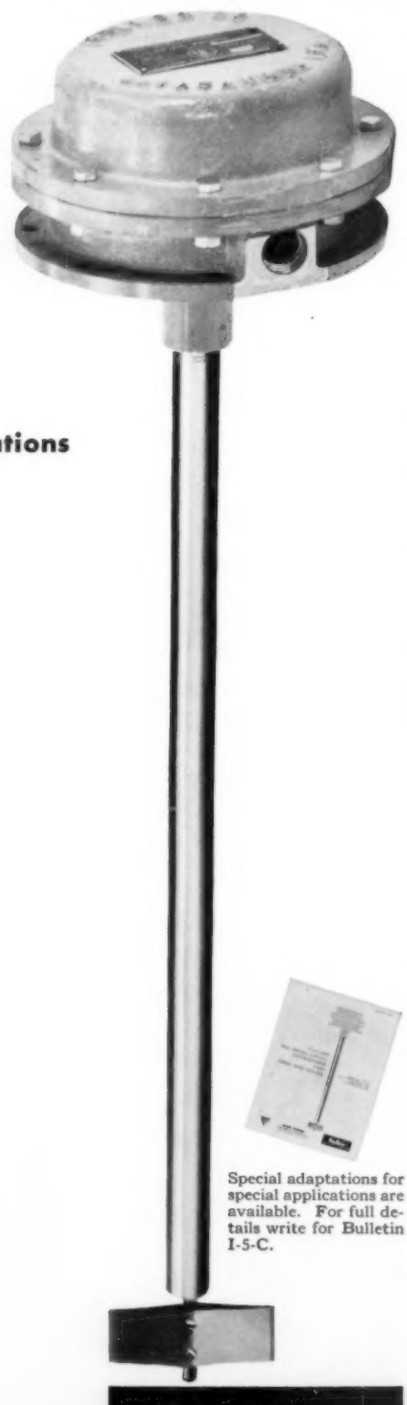

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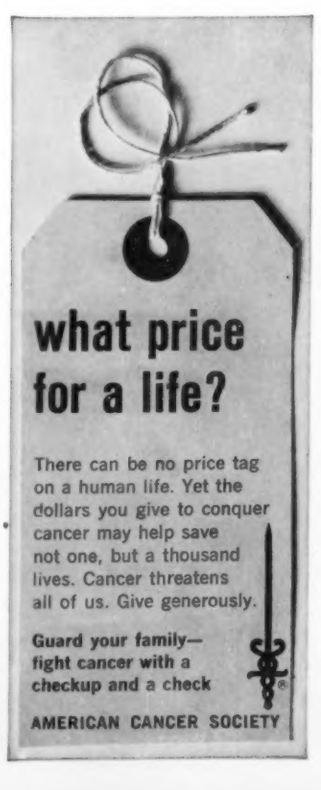
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these amounts be shown, it would seem the best solution is to leave off the guarantees for amount completely.

In the report of the Medicated Feed Labeling Committee at Washington it was suggested that where the amount of an antibiotic is declared, except in the case of a drug guarantee, it was proposed that this be given in the ingredient list along with the ingredient.

Later discussion of this subject brought out the point that this might create a problem if the amounts of these items, as well as others, are declared in the ingredient list. Under such circumstances the ingredient list might soon become a hodgepodge.

Although the Medicated Feed Labeling Committee did not discuss this at length it was the consensus of control officials that it should be re-examined. Perhaps it would be simpler if all quantitative declarations were made in the chemical guarantee and that the ingredient list be limited to a listing of the common or usual names of ingredients. Eventually this might carry through to include minerals which have frequently been shown quantitatively in ingredient lists in the past.

There are a few products on the market containing more than 50 gm. per ton of antibiotics for which no therapeutic claims are made and the statement "increased weight gains and improved feed efficiency" appears. As stated previously, no claims for increased feed efficiency, etc., should be made unless antibiotics appear in combination with a drug in a medicated product or therapeutic claims are also made.

If more than 50 gm. of antibiotics per ton are added, a further question is: "Why are such high levels needed?" Answers to this question may lead to a lowering of the amount as it is generally believed large amounts cannot be justified for feed efficiency and weight gain claims only. If the larger amount is necessary for therapeutic purposes then medicated feed labeling becomes necessary.

Breeding Farm Names Sales Representative

HAZARDVILLE, CONN. — Pilch's Poultry Breeding Farms, Inc., has appointed Alford E. Welbourne to its sales and service division, according to John H. Nay, sales manager. Mr. Welbourne will make his headquarters in Shreveport, La., and will cover the central southwest area, according to the Pilch firm.

A. E. Welbourne

Mr. Welbourne graduated from the University of Illinois College of Agriculture and obtained a master's degree at Harvard Business School in marketing. Prior to accepting this position in the Pilch organization, Mr. Welbourne was sales manager with Valley Mills, Vicksburg, Miss. Mr. Welbourne's previous experience includes sales and staff work in sales training for a major feed company.

The appointment of Mr. Welbourne brings the total service personnel of the Pilch firm to seven.

Feed Sales Begin

ODESSA, TEXAS — Winter feed sales are beginning earlier than usual in west Texas. There are two reasons for this, according to W. T. Henderson, local feed dealer. Ranchers are buying now because they think the price of feed may advance and also they want to have the feed on hand in case of a sudden, hard freeze.

"This is one of the best early season sales we have ever had," said Mr. Henderson. "Ranchers are particularly sold on range cubes."

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Science and Service is a summary of special Golden Year articles in observance of American Feed Manufacturers Association 50th anniversary. Twelve outstanding feed authorities contributed to the reports which appeared in Feedstuffs during the past year and from which this booklet was compiled.

A limited number of reprints of Science and Service *are available now at a single copy price of 50¢. Larger numbers available at quantity prices, ranging downward from 35¢ each for 10 to 100, 25¢ each for 100, to 10¢ each for 1,000. Imprinting a three line company signature on back page of quantities over 100—$7 minimum. Inquire about additional quantity discounts.*

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New Supersweet Feed Mill Begins Operation in Iowa

By JAMES K. RUTTER
Feedstuffs Staff

"The blueprint for the success of Supersweet Feeds has been for us to produce high quality feeds in mills of average size, always close to a good market area," says Lloyd Workman, vice president and general manager of Supersweet, a division of International Milling Co., in Minneapolis.

A new feed plant recenty completed and now in production at LeMars, Iowa, is another step in the direction of expanded sales and maximum service, according to Mr. Workman. The plant produces both sacked and bulk finished feed.

"This mill, like our others, has its own fleet of trucks which allows us to give our customers the service they demand in this competitive feed business," he says.

Mr. Workman explains that the new plant, with an estimated capacity of 12 tons per hour, was constructed to replace the Supersweet feed plant that was destroyed by fire last spring in Estherville, Iowa. Plant location was changed so that the feed distribution point would be more centrally located in the service area.

Plant superintendent at the LeMars installation is Omar Ellefson. Mr. Ellefson formerly served as superintendent of Supersweet's feed mill in Grand Island, Neb. Robert McCabe, sales manager, was formerly stationed in Estherville, and in charge of sales for all of eastern Iowa.

"We started producing feed here just five months after construction got underway," points out Mr. Ellefson. "Right now, we are working one shift, but we'll build up to three shifts soon, and employ about 30 people."

The plant is located on a 6-acre site just south of LeMars on Highway 75. Supersweet constructed a permanent railway spur from the nearby Illinois Central tracks to handle incoming railway shipment of ingredients.

Mill Flow

Here is an outline of the materials flow and a description of equipment used in the feed plant, as pointed out by Mr. Ellefson during a recent open house tour:

A 75 h.p. Sprout-Waldron pneumatic suction system moves the ingredients from the rail cars or truck dumping pits to a distributing head. The ingredients are then dropped by gravity into one of the 15 bulk storage bins.

Eleven of the bins are located inside the plant. They are smooth surface, welded steel tanks. The four reserve bins (Butler) are located outside the main building and bring the total bulk storage bin capacity to 475 tons.

Incoming grain is carried along by the pneumatic suction system through the same procedure and dropped into the bins for storage. From storage, the grain drops to a 50 h.p. Jacobson hammermill in the basement.

Molasses, arriving by either rail or truck, is stored in a concrete tank in the basement. Capacity of the tank is about 2 carloads.

In batching the ingredients are taken out of the bins located in the main mill building and dropped by gravity into the hopper scale (Toledo), having a 5,000 lb. capacity. Amounts of ingredients entering the hopper are controlled by air-operated gates operated with levers.

The ingredients are dumped from the hopper scale into a 150-cu. ft. Strong-Scott mixer located in the basement.

A surge bin beneath the mixer receives the feed next before it is taken by a drag conveyor to the No. 1 leg and carried to the top floor. Here, it goes through a permanent magnet and a Sprout-Waldron gyro-sifter.

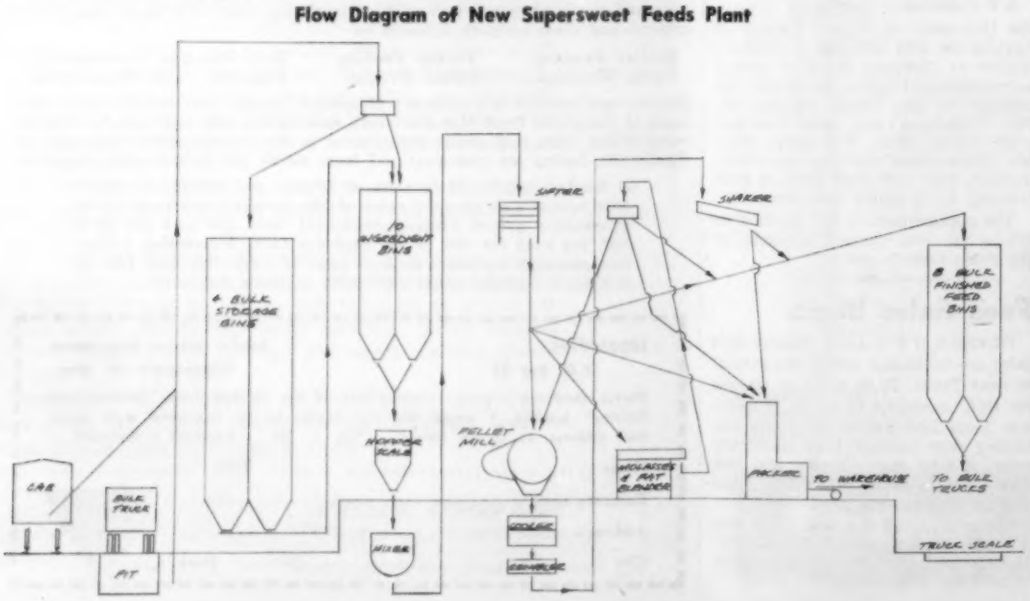
The mixed feed goes through a dis-

SUPERSWEET FEED PLANT—This new feed manufacturing plant, constructed by Supersweet Feeds, division of International Milling Co., Minneapolis, recently went into production at LeMars, Iowa. Flat building on the right is the warehouse for storage of sacked feeds and ingredients with truck loading and unloading facilities. The modern office building is located on the left, just in front of the main mill building. The plant has a capacity of about 12 tons of feed per hour.

CONSTRUCTION COMPLETED—Two men playing vital roles in the construction and operation of the LeMars feed plant are Omar Ellefson (left) and Ray Norton. Mr. Norton, International Milling Co.'s production manager, had charge of building the structure, while Mr. Ellefson is the new plant superintendent. They are pictured in front of the Wenger fat and molasses blender.

CONTROL PANEL—Supersweet Feeds' Lloyd Workman, division manager (left), and Darrell M. Runke, general sales manager, are shown at the International Milling Co.'s new feed plant in LeMars, Iowa. The men are standing in front of the batching control panel.

Flow Diagram of New Supersweet Feeds Plant



SIDE VIEW—A side view of the Supersweet plant at LeMars is shown above. The low building on the right is part of the 15,000 sq. ft. warehouse. Extending above this in the background are the main mill building and storage tanks. On the left are facilities for bulk truck unloading and load-out.

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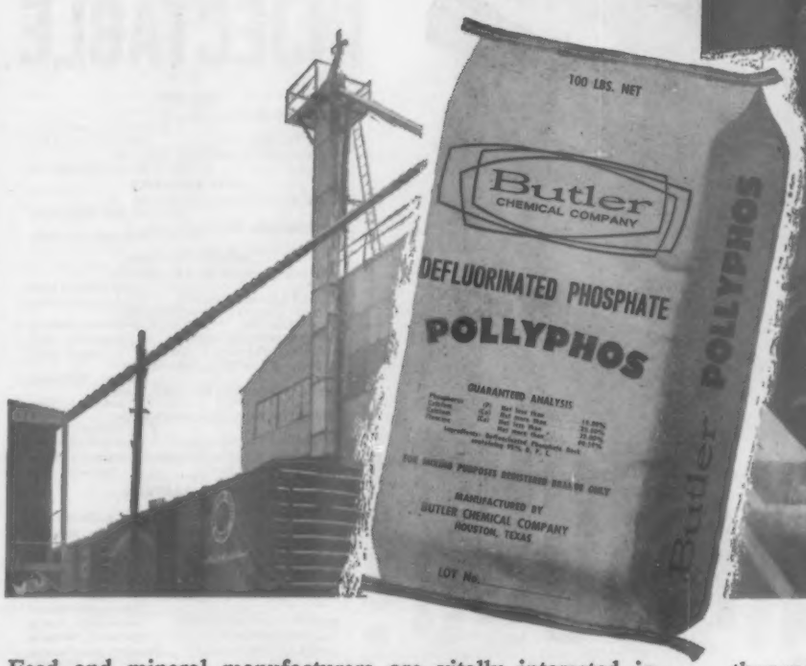

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the feed industry

tributing head to the pelleting bins, packing bins, bulk finished feed bins or the bin located above the Wenger molasses and/or fat blender. Each receiving station here is equipped with two bins having capacities of 6 tons each.

Pellets are made with a 100 h.p. Sprout-Waldron pellet mill (wide-faced die). The pellets are then dropped into a Wenger horizontal cooler located in the basement. From here, they go either to the Wenger crumbler or directly to the No. 2 leg which carries them to the top floor and onto the Sprout-Waldron shaker.

From the shaker, the pellets are dropped into a distributing head and sent to packing bins or bulk feed bins. All feed routed to the bulk finished feed bins is carried by drag conveyors.

The Richardson E-50 sacker will handle from 8 to 12 bags per minute. The feed leaves this area by belt conveyor and is transported into the 15,000 sq. ft. warehouse for storage.

Directly above a 50-ton Fairbanks-Morse truck scale are the bulk finished feed bins. Discharge of feed from these bins is controlled by air-operated gates.

The main building, 220 ft. long, 80 ft. wide and 102 ft. high, is constructed of structural steel and cement blocks. The roof is of prestressed concrete slabs.

The entire flow process taking place in the plant, including the movement of inbound ingredients, is controlled by an electrical panel located on the first floor.

The modern office area is a separate building located adjacent to the main mill.

"We are producing over 70 different formulas of feed now," says Mr. Ellefson. "And we have enough space inside the plant to install more machinery when and if it's needed."

Approximately 1,500 Iowans and South Dakotans converged on the new feed plant on Nov. 1 to examine the facilities and machinery at the mill's grand opening.

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Large-scale field trial tests* involving thousands of birds have proven GALLIMYCIN Injectable highly effective in protecting flocks from C-R-D breaks! Baby chicks were injected with just 5 mg. (0.1-cc) GALLIMYCIN attempting to free them from PPLO, main cause of C-R-D. Results...

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4 Turkey Conferences Conducted in Iowa

AMES, IOWA—The proper balance of nutrients cannot be achieved when the free-choice system of feeding is used, Dr. S. L. Balloun, Iowa State University nutritionist, told persons attending four area turkey conferences recently held in Iowa.

Dr. Balloun also pointed out that when commercial protein concentrates are blended with corn to make an all-mash feed, the mineral and vitamin content of the concentrate could be changed as the birds grow older and their requirements for these nutrients change. He said that a properly balanced ration cannot be achieved when the same concentrate is used during the complete growing and finishing period.

The four turkey conferences were held at Washington, Leon, Storm Lake and Charles City, Iowa, with similar programs presented at each. Sponsors of the area turkey conferences were Iowa State University extension service and the Iowa Turkey Federation.

A discussion of chronic respiratory disease was presented by Dr. C. D. Lee, extension veterinarian from Iowa State University. Dr. Lee described the testing program being carried on in Iowa and commented that the tube test appears to be a much more accurate test than the other types which have been developed. He said that all turkey breeder flocks in Iowa are being tested for chronic respiratory disease and that the program seems to be paying off because each year fewer reactors are being found.

Dr. O. L. Thompson, Dr. Salsbury's Laboratories, commented further at the Charles City meeting on the subject of turkey respiratory diseases. He stated that one of the problems with chronic respiratory disease was that of diagnosis because the symptoms are similar to those of other diseases such as aspergillosis and ornithosis. Dr. Thompson also said that the organisms which cause CRD may become resistant to an antibiotic and for that reason, using antibiotics in a cycle, first one and then another, may give better results. He also said that using a different route of administration may also be of value rather than using the same method of administering the antibiotic time after time.

Processors Represented

The turkey processing industry was also represented on the programs. At the Charles City meeting Howard Richey, Central Cooperative Turkey Producers, Ellsworth, Iowa, said that one of the big problems the processor faces when buying turkeys is the variation in size of birds within a flock. The processor is looking for birds that will meet the weight classifications his customers have ordered. Mr. Richey stated further that at times a premium may be paid for a particular flock of uniform birds that are of a size which is in demand but that this price does not reflect the going live turkey market. He advised turkey producers to practice good management in order to insure top quality turkeys, mentioning such things as debeaking and prevention of breast blisters. New growers and growers with small flocks usually produce the best turkeys, Mr. Richey said. More experienced producers with large flocks seem to be more complacent about sound management practices, he said.

John Planalp, executive secretary, Iowa Turkey Federation, explained the function of the federation and some of the promotional activities being carried on. These activities include the introduction of the "Iowa Seal of Quality" which is being used by Iowa processors on their turkey packages. Mr. Planalp said that about $20,000 of the Iowa Turkey Federation budget is used to support the National Eat More Turkey Campaign and that about $10,000 is used by the Iowa federation for promoting Iowa turkey through trade journals and national television.

Hess & Clark Names Two Research Men

ASHLAND, OHIO — Two appointments to the Hess & Clark research staff have been announced by Dr. Paul D. Harwood, vice president and director of research for the company which is headquartered here.

William M. Dillard, D.V.M., has been appointed assistant director of field research and G. Neal Hill, D.V.M., has been named to the post of research veterinarian, according to Dr. Harwood.

In his new position, Dr. Dillard will assist in planning and supervising research conducted at universities and state agricultural experiment stations. Prior to joining Hess & Clark he worked as a public health veterinarian. For six years, he was an associate professor at the School of Veterinary Medicine, Alabama Polytechnic Institute. He was also engaged in private practice for five years. Dr. Dillard is a graduate of the Southern School of Pharmacy and received his D.V.M. degree from Alabama Polytechnic Institute (Auburn) in 1948.

Dr. G. N. Hill — Dr. W. M. Dillard

Dr. Hill will conduct large animal research at the Hess & Clark research center, Dr. Harwood said. A native of Ashton, Idaho, he is a graduate of the University of Idaho and received his D.V.M. degree from the University of California. Prior to joining Hess & Clark he was a practitioner with the Owyhee Veterinarian Clinic, Homedale, Idaho.

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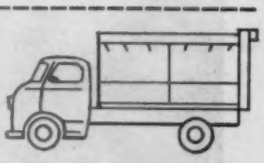

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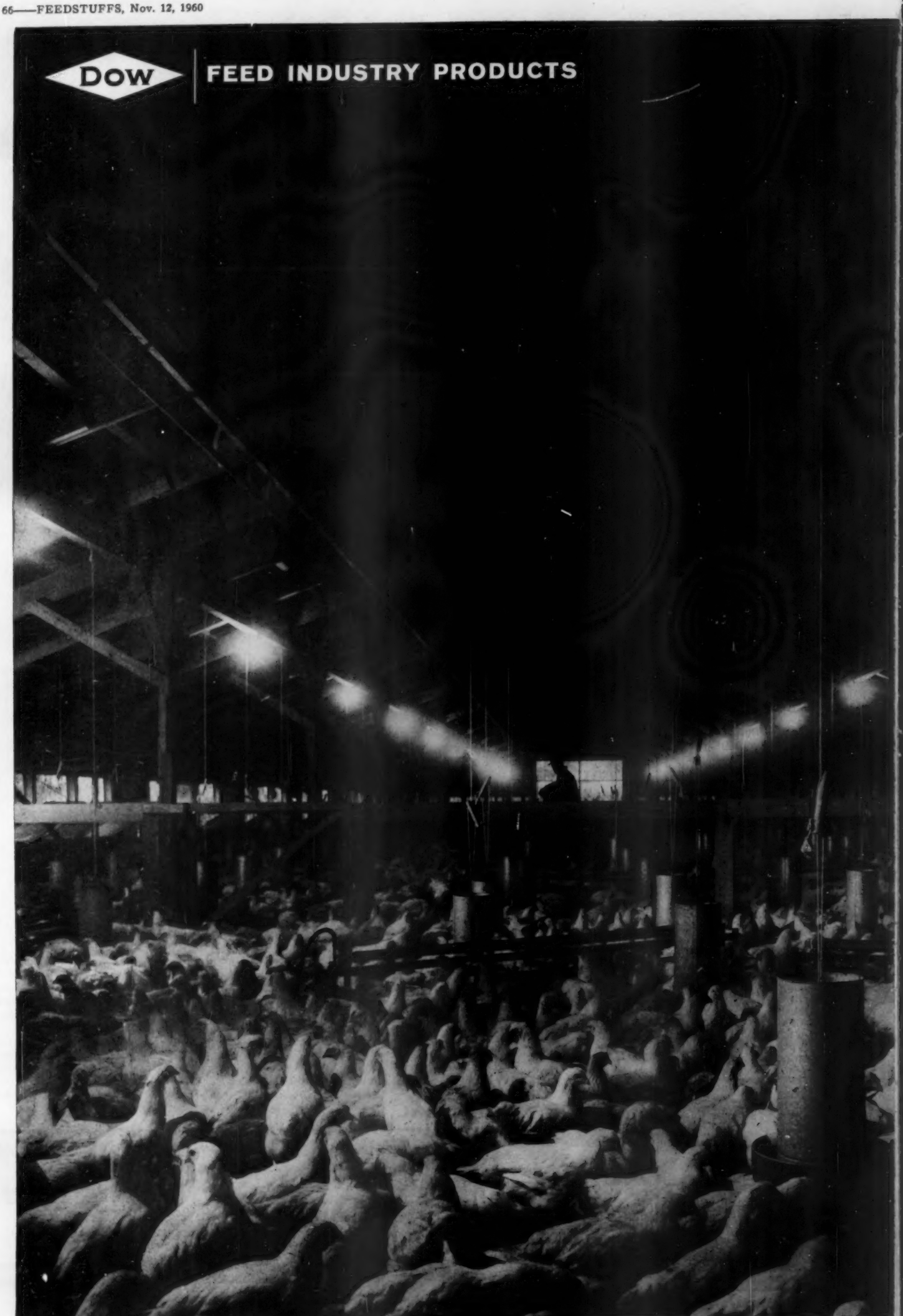

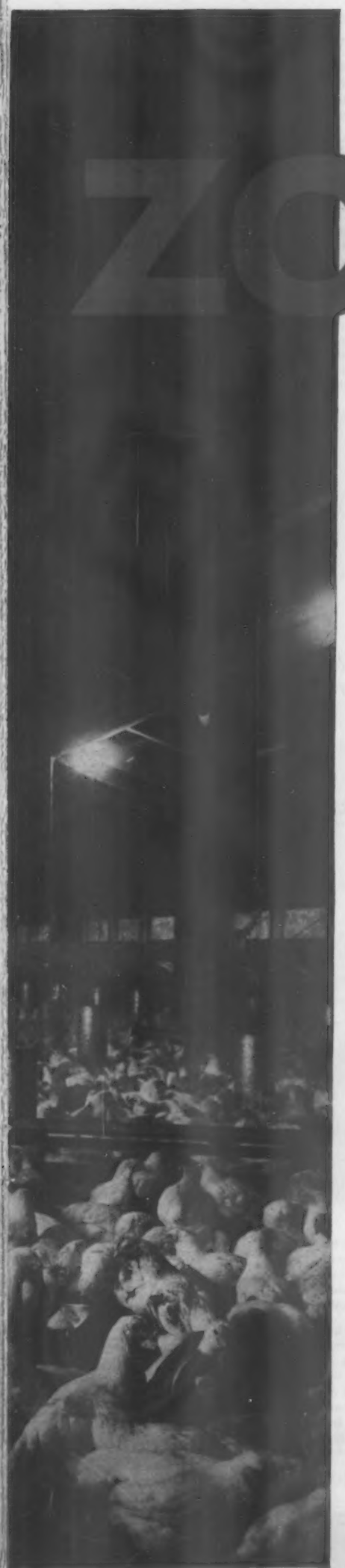

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Feed manufacturers, independent research laboratories and college experiment stations have made Zoamix® a thoroughly pre-tested coccidiostat. Trials have been run since 1955.

If you're growing birds . . . protection and feed conversion are of prime importance. Zoamix is as effective as any presently available coccidiostat . . . more so than 8 of 9. Zoamix is effective against the strains known to cause outbreaks of coccidiosis.

The results of comparative feed trials are shown in the chart below. Very often 10,000 birds will return an extra $250.00 profit (frequently much more) over flocks fed other coccidiostats.

RATE OF GAIN AND FEED CONVERSION COMPARISONS

	Zoalene* Compared with Following Coccidiostats	A	B	C	D	E	F	Totals
	Number of Comparative Tests	29	15	16	23	5	6	94
NUMBER OF TESTS IN WHICH:	Zoalene Superior for Weight Gains	28	14	16	14	5	6	83
	Other Coccidiostat Superior for Weight Gains	1	1	0	8	0	0	10
	No Difference in Weight Gains	0	0	0	1	0	0	1
	Zoalene Superior for Feed Conversion	26	10	14	15	2	6	73
	Other Coccidiostat Superior for Feed Conversion	1	2	2	7	2	0	14
	No Difference in Feed Conversion	2	3	0	1	1	0	7

*the active ingredient in Zoamix

If you're formulating feed . . . you'll appreciate the margins of safety Zoamix affords. It's safe to switch from another coccidiostat without a growth setback. It's compatible with commonly used additive and feed ingredients and won't alter nutritional requirements. Although recommended for growing chicks only, Zoamix won't cause physical injury if mistakenly fed to other farm animals. Zoamix can be fed to replacement birds as well as broilers. Assaying is simple, speedy. Zoamix can be pelleted and repelleted, will not cake or lose potency even when stored for prolonged periods . . . or subjected to severe temperature fluctuations.

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Monsanto Relocates Sales Representatives

ST. LOUIS, MO.—Two members of the field sales staff of Monsanto Chemical Co.'s agricultural chemicals division have been relocated, effective immediately.

Darwin Holland, sales representative at Jackson, Miss., for the New Orleans district, has been transferred to Columbus, Ohio, and will service the Cincinnati district.

Claiborne L. Barber, assistant sales manager for the New Orleans district, moves from that city to Jackson, adding to his responsibility those accounts previously handled by Mr. Holland.

The changes are part of a realignment of sales personnel stemming from the formation last September of the new division for farm chemicals, according to Monsanto officials.

The sale seemed assured and the diplomatic salesman was beginning tactfully to remind the prospect that the special engine involved an additional charge. Likewise the highflared fenders, concaved doors, vented hood, grooved top and gold-chrome grill, all were optional at extra cost.

"I won't stand for it!" fumed the prospect. "Can't you just sell me the car without all those extras?"

"Certainly," beamed the salesman. "Where do you want the doorhandles delivered?"

◆ ◆ ◆

Sending them up in rockets seems a rather expensive way to get rid of mice.

◆ ◆ ◆

"So you really think your memory is improving under treatment. You remember things now?"

"Well, not exactly, but I have progressed so far that I can frequently remember that I have forgotten something, if I could only remember what it is."

◆ ◆ ◆

"Do you know any reliable rule for estimating the cost of living?"

"Yes. Take your income—whatever that may be—and add 25%."

◆ ◆ ◆

Visitor: "How old are you, sonny?"

Smart Boy: "That's hard to say, sir. According to my latest school tests, I have a psychological age of 11 and a moral age of 10. Anatomically, I'm 7; mentally I'm 9. But I suppose you refer to my chronological age. That's 8—but nobody pays any attention to that nowadays."

◆ ◆ ◆

"My husband just lost his entire fortune in the stock market."

"Oh, how dreadful! I know you feel sorry for him."

"Yes, he'll certainly miss me."

◆ ◆ ◆

Then there was the general who, visiting the Korean front, had a sniper bullet whiz by his head.

"Locate that sniper," snapped the general.

"We know exactly where he is, Sir," a sergeant replied.

"Then why don't you shoot him?" asked the general.

"Well, Sir," said the sergeant, "that guy's been banging away for a month and ain't hit nobody yet. We're afraid if we get him they might have a replacement who can shoot."

◆ ◆ ◆

"Mother," said Little Tobey, "today our teacher asked me whether or not I had any brothers or sisters, and I told her I was an only child."

"And what did she say?" asked his mother.

"She said, 'Thank goodness!' "

Columbian Grain Storage and Handling Equipment, plus unique engineering design by a Columbian contractor gave the compact elevator-feed mill pictured above new time-and-labor-saving efficiency and unusual versatility.

Buckeye Feed & Supply Co. of Monterey, Ind., looked to Columbian when their old mill burned down. Ross Construction Co. of Claypool, Ind., designed this new installation which has ample capacity for storage, a quick and efficient grain conditioning system and fast movement of grain to feed mill (in basement), truck or railroad car for shipment. Six Columbian hopper-bottom tanks, each 12'3"x32' high are mounted over the driveway. Two are used for receiving and storing moist grain, the other four for grain and feed storage. Grain is received in pits, can be moved to any tank by the 3600 bu. per hour capacity elevator leg. From the tanks the grain is spouted to dryer, mill or trucks. A semi-trailer grain truck can be loaded in 20 minutes. This efficient system lets one man do the work of the three used previously.

It will pay you, too, to look to Columbian for efficient and economical answers to your grain and feed storage and handling problems. Columbian master-crafted equipment, plus the services of experienced Columbian distributors and contractors can save you money, and design new efficiency that will increase your profits and provide for future expansion. Write today for new free illustrated Columbian "Bolted Steel Grain Tanks" booklet.

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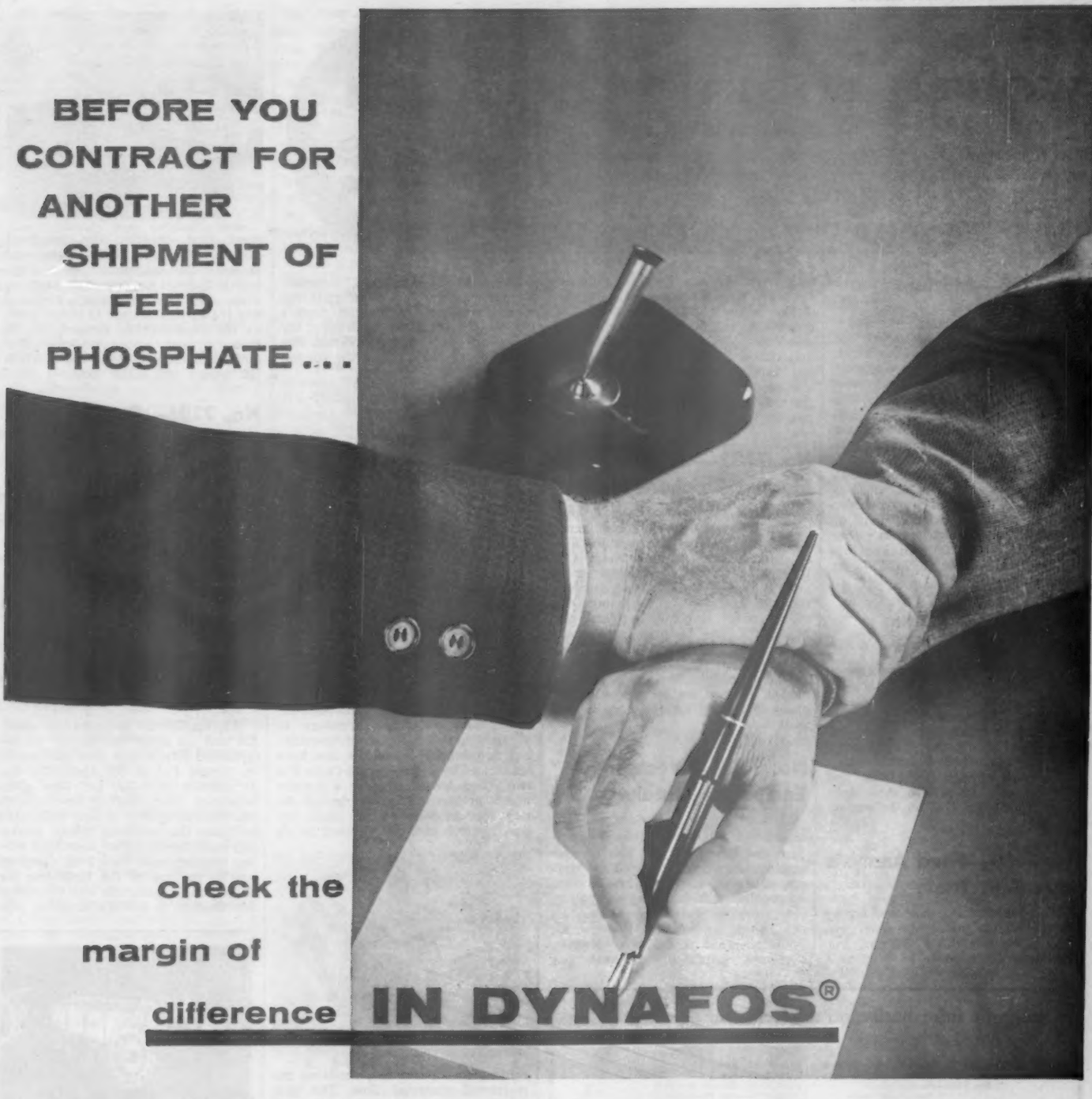

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TO EQUAL THE BIOLOGICALLY AVAILABLE PHOSPHORUS IN ONE POUND OF DYNAFOS.

*As compared to beta tricalcium phosphate reference standard

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DESCRIPTIONS OF NEW AND IMPROVED PRODUCTS AND SERVICES PROVIDED BY MANUFACTURERS AND SUPPLIERS ARE PRESENTED IN BRIEF FORM. FOR ADDITIONAL INFORMATION, PLEASE USE THE ACCOMPANYING COUPON.

No. 7178—Motion Safety Switch

A motion safety switch, which the company says protects machines, equipment and processes against damage resulting from stoppages, was announced by the Fuller Co. The switch may be used to control a motor circuit or to operate a warning device, such as a signal light, horn or bell. The switch is designed to be driven by any machine or equipment, the continuous operation of which is essential to the safety and proper operation of related equipment or processes. It can be driven in either direction at 40 or 100 rpm. For further information, check No. 7178 on the coupon and mail.

No. 7181—Pelleting Data Sheets

Data sheets showing the results of laboratory work on pelleting cattle feed are now being made available by Baroid Chemicals, Inc. A typical 20% protein cattle ration with the addition of bentonite is compared with the same ration without bentonite to show pellet hardness and pelleting rate. To receive these data sheets, check No. 7181 on the coupon and mail.

No. 7180—Feed Analysis Ingredient Table

Availability of a revised feed analysis ingredient table has been announced by Stabilized Vitmins, Inc. The table, designed to be used as a wall chart, gives a detailed analysis for more than 70 ingredients. In addition to the chemical analysis, the chart contains figures on metabolizable energy, as presented in the Cornell University Department of Poultry Husbandry formula sheets, T.D.N. and productive energy. For copies of the chart, check No. 7180 on the coupon and mail.

No. 7182—Grate Magnet Brochure

A 6-page brochure which contains information on a line of permanent, non-electric magnetic grates is available from Eriez Manufacturing Co. Illustrations show the models available, including the wing-type, drawer-type, "Rota-grate", grate in housing, "Rota-grate" in housing and the Model P. Case histories are given, and specification tables on all models, giving sizes, strengths, installation areas and maintenance needs, are included. For copies of the brochure, check No. 7182 on the coupon and mail.

No. 7179—Processing Equipment Catalog

Edw. Renneburg & Sons Co. announces a 16-page bulletin illustrating and describing its line of processing equipment. Included are dryers, calciners, kilns, coolers, coaters, spheroidizers, flash drying equipment, refractoryless furnaces, combustion equipment, air handling systems, air pollution control systems, cookers, digestors, granulators, mixers, pug mills, presses, extractors, countercurrent washers, pilot plant units, reactors, roasters, distillation towers and other specialized machinery. Included are more than 75 photos. For copies, check No. 7179 on the coupon and mail.

No. 7183—Screw Conveyor Bulletin

Sprout, Waldron & Co., Inc., announces the availability of a bulletin describing standard and industrial gas-tight screw conveyors. The illustrated publication gives specifications on all the conveyors, and covers special conveyors, conveyor boxes and covers, hangers, box ends and discharge openings. For copies of the bulletin, check No. 7183 on the coupon and mail.

No. 7185—Gravity Feeder

A gravity feeder precision built for applications requiring accuracy in the feeding and batching of free flowing, non-flooding materials, has been announced by Thayer Scale Corp. The two speed feeder employs a feature which prevents clogging during the slow feed process. At fast speed, the flow control gate is adjusted to its

fully opened position, permitting unrestricted material flow. The feature is a pneumatic vibrator mounted on the flow control gate. It is actuated when slow or dribble flow is desired. The vibrating action assures an even flow of material through the gate, insuring a high degree of accuracy and preventing clogging, the company says. For more complete information, check No. 7185 on the coupon and mail.

No. 7187—Rolling Mill Attachment

Barnard & Leas Manufacturing Co., Inc., announces a rolling mill attachment as optional equipment on the B&L Mobile Feed Mill. According to the company, the roller mill unit is mounted across the back of the mobile mill. The mounting makes possible the use of the mill's 10 ft. hoppered auger feed conveyor for bringing the grain to the roller mill. The auger is mounted to swing over a wide arc, saving the operator time in positioning the unit for processing, the company says. Another feature of the intake auger is a variable speed control which allows grain to be introduced to the rolls at optimum capacity. Rolled and cracked grains are conveyed to a multiple-action mixer, after passing through the unit's pre-blender. Molasses and concentrates can be metered in at the

same time, meeting the processed grain at the pre-blending point and entering the batchmixer as a thoroughly-blended pre-mix, the company says. Also, the company's powered hay feeder can be used to direct bales to the hammermill. Ground hay is then conveyed to the pre-blender. For more information, check No. 7187 on the coupon and mail.

No. 7186—Egg Producing Program

A brochure which contains a full description of the "Full Performance Index" program for egg producers has been announced by Hess & Clark. The brochure also contains an official program entry blank. Rules and regulations for the program, plus descriptions of the awards to be made are also given. For copies of the brochure, check No. 7186 on the coupon and mail. The offer closes on Jan. 31, 1961.

No. 7184—Fat, Oil Applicator

An applicator designed to apply fat and oil with "Santoquin" to dehydrated alfalfa has been announced by Lingel Fat & Oil Applicator Co. It consists of a 300 gal. fiber glass insulated tank, electric heater with thermostat, motor driven calibrated variable displacement pump, warming bulb, thermometer, electrical wiring and controls. Two 2 in. openings are in the top of the tank, one for filling and measuring and the other for venting. A perforated ½ in. pipe

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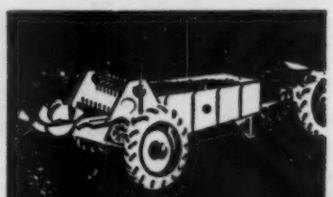

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at the bottom connected to an air supply mixes the Santoquin with the fat or oil. The pump, oil heater, warming pump, thermometer and piping are in the lower part of an insulated compartment at one end of the tank. The electrical equipment is in the upper part, switches and indicating lights are mounted on the door. For more details, check No. 7184 on the coupon and mail.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number of the coupon and forwarding it to Feedstuffs.

No. 7121—Level control bulletin, Flo-Tronics, Inc.
No. 7122—Molasses unit bulletin, Sprout, Waldron & Co., Inc.
No. 7123—Swine mixing salt, Morton Salt Co.
No. 7124—Mobile management bulletin, Seco, Inc.
No. 7125—Feed pellet binder, Cargill, Inc.
No. 7126—Feed flavor booklet, Flavor Corporation of America.
No. 7127—Bulk truck data, Sprout, Waldron & Co., Inc.
No. 7128—Enzyme approval, Merck & Co., Inc.
No. 7129—Adjustable elbow, Huss & Schlieper.
No. 7130—Conveying bulletin, The Day Co.
No. 7131—Equipment bulletin, Fuller Co.
No. 7132—Pallet booklet, Raymond Corp.
No. 7133—Broiler disease program, Chas. Pfizer & Co., Inc.
No. 7134 — Displacement blower bulletin, Sutorbilt Corp.
No. 7135—Pig anemia preventive, E. R. Squibb & Sons.
No. 7136 — Bulk truck bulletin, Sprout, Waldron & Co., Inc.
No. 7137—1961 "Feedmaker" model, J. B. Sedberry, Inc.
No. 7138—Calf milk replacer, National Vitamin Products Co.
No. 7139 — All-steel bin, Leach Manufacturing Co.
No. 7140—Automatic poultry feeders, Chore-Time Equipment Co.
No. 7141—Hanging poultry feeder, James Manufacturing Co.
No. 7142—Reference manual, Universal Hoist Co.
No. 7143 — Drying, conditioning unit, Habco Manufacturing Co.
No. 7144—Bulk feed stations, Seco, Inc.
No. 7145—Moisture register, Moisture Register Co.
No. 7146 — Feeder bulletin, B-I-F Industries.
No. 7147—Vitamin K report, Heterochemical Corp.
No. 7148—Improved milk replacer, Borden Special Products Co.
No. 7149—Bulk feed body, Henderson Manufacturing Co.
No. 7150 — Collapsible container, Highway Trailer Industries, Inc.
No. 7151—Portable feed bin, Blosser Manufacturing Co.
No. 7152—Protein analysis report, North Dakota Agricultural College.
No. 7153—Explosion protection system, Fenwal, Inc.
No. 7154—Feed ingredient analysis table, Stabilized Vitamins, Inc.
No. 7155 — Cob conveyor, Shelby Manufacturing Co.
No. 7156 — Broiler feeder, James Mfg. Co.
No. 7157—Bin vibrator, Eriez Manufacturing Co.
No. 7158—Poultry bags, Anderson Box Co.
No. 7159—Electronic control brochure, The Electronics Control Division of Flo-Tronics, Inc.
No. 7160—Bulk feed body, Winger Manufacturing Co.
No. 7161—Counter display units, Hess & Clark.
No. 7162—Grain trailer with belt conveyor, The Wilson Trailer Co.
No. 7163—Roll-to-back nest, Keen Manufacturing Corp.
No. 7164—5-ton vertical mixer, Jacobson Machine Works.
No. 7165 — Storage tank heating coils, Dean Products, Inc.
No. 7166 — Water-dispersible vitamins, Merck & Co., Inc.
No. 7167 — Hopper-level control, James Manufacturing Co.
No. 7168—Fork truck attachment, Clark Equipment Co.
No. 7169 — Intermediate range checkweigher, Toledo Scale Corp.
No. 7170—Valve bag packer, St. Regis Paper Co.
No. 7171—Sewing pedestal, Richardson Scale Co.
No. 7172—New coccidiostat, Merck & Co., Inc.
No. 7173—Grain storage equipment, Walsh Manufacturing Co.
No. 7174—Auger molasses mixer, Pacific Molasses Co.
No. 7175—Grain dryer, Figley Cox, Inc.
No. 7176—Auto advertising device, Travelads, Inc.
No. 7177—Gravity powered grain spreader, Habco Manufacturing Co.

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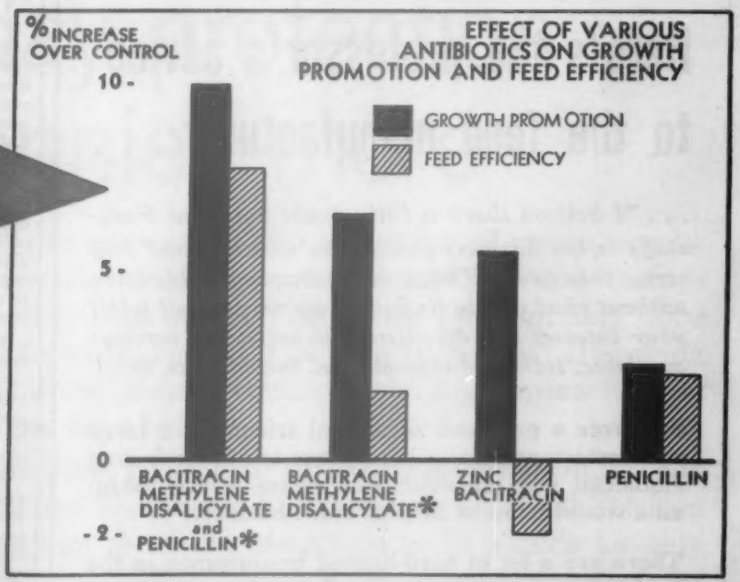

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Income, Investment Correlation Topic At Washington Event

PULLMAN, WASH.—The substitution of capital for labor has been the key to the technological revolution on the farm, Dale Smith, Seattle, feed division manager for Western Farmers Assn., told those attending Washington State University's third annual Poultrymen's Institute.

In discussing the poultryman's credit costs, he said studies show that farm income per hour of labor varies directly with capital investment per worker. And in the future, he predicted, credit will be relied upon increasingly by individual farmers to meet their capital needs.

The institute speaker said a $50,000 investment is required today for a 10,000-bird poultry operation. Poultry houses and equipment account for $30,000 of the amount and the rest is for land and residence, he said.

Mr. Smith stressed the importance of complete records when applying to lending agencies for money. He said an organized plan for use of the capital obtained is essential to make the investment earn a profit.

B. J. Card, commercial egg producer, Yakima, described his experience in substituting capital investment for labor in terms of mechanized equipment. He said he has cut labor costs by installing mechanical equipment for egg candling, grading and bulk feeding.

The practices have kept labor costs per year almost constant while the laying flock has been increased fourfold, he said.

Mr. Card said he still faces an important limiting factor in cutting manhours. The process of egg gathering, he said, now takes 4½ manhours per day but that present mechanical egg-gathering equipment is in too early a stage of development to be of much help.

Further Mechanization

The time saved by mechanical equipment which would place eggs on filler flats and give notice when the container was filled would justify an investment of at least $5,000 to replace the chore, the Yakima poultryman said.

Jasper A. Reynolds, fryer producer and poultry processor, Walla Walla, described the 200,000 bird operation of his company. "Constant vigil for places to reduce costs and an open searching mind are required to stay in business on a profitable basis," he told the institute.

Truman Wilcox, Roy, another commercial egg producer, explained the management practices used for maintaining a flock of 40,000 layers. An important key to profitable operation, he said, is knowing the costs of each phase of operation.

Safeguards to protect consumers and the poultry and livestock industries against adulterated food and feeds were spelled out by T. E. Herman, Spokane, Food and Drug Administration. Mr. Herman commented that at least 20-25% of all manufactured feeds are medicated. Concerning drugs added to prevent disease conditions or promote growth, he said all are produced under a Food and Drug Administration inspection program in which the manufacturing procedures and controls are checked for accuracy.

He commented, "The inspection covers identity and amount of drug in batch formulas, any new or unusual feed ingredients; method of storage and control of raw materials, especially drugs; adequacy of equipment to formulate medicated feeds properly; care and cleaning of mixing equipment, particularly if used for different products; methods used to control dust containing drug components; methods and frequency of sampling and laboratory analysis; and labeling."

Russia's Poultry

Rapid growth of Russia's poultry industry was described by Dr. I. L. Kosin, WSU poultry scientist and Russian-language professor. He told the representatives of the poultry industry that the number of birds on Soviet farms has jumped 25% in the past three years. In the next five years, Russian planners hope to double the present total of 110,000,000 birds, he said.

Other institute speakers included: Dr. S. A. Edgar, poultry pathologist, Auburn University; Cecil F. McClary, geneticist, Heisdorf & Nelson Farms, Kirkland; Charles Peterson, poultry scientist, University of Idaho, Moscow; and the following members of the WSU staff: Dr. L. R. Berg and Gordon E. Bearse, poultry scientists, and Dr. C. M. Hamilton, veterinarian, Puyallup. Dr. W. O. Wilson, poultry scientist, University of California at Davis, doing research at WSU this year on sabbatical leave, also spoke.

Screwworm Found in Mississippi Delta

JACKSON, MISS. — Screwworms have been found recently in cattle in the Mississippi Delta.

The first confirmed case of screwworms was in Issaquena County about Aug. 1, according to Dr. L. J. Pate, Jackson, veterinarian in charge, animal disease eradication division, Agricultural Research Service, who is cooperating in the federal screwworm eradication program being conducted in southeastern states.

Another was found in Washington County about a week later and next cases were found in Sunflower and Leflore counties.

Dr. Pate has advised farmers to keep a close watch on their animals and report any evidence of screwworms with special attention given to new born calves.

"So far as we know, no other infestation is present in any other counties in the Delta at this time. It appears that the rapid spread of the infestation has at least been temporarily halted by spraying with Co-Ral all infested herds and other herds within a four mile radius of the infestation," the veterinarian declared.

He warned of the potential danger of further spread, since there may be several more weeks of warm weather before cold weather stops the progress of the screwworms.

Inspection stations are maintained along the state's southern and western borders to prevent the importation of infested livestock, Dr. Pate added.

Georgia Egg Future

GAINESVILLE, GA.—Georgia can bring a large portion of the commercial egg industry to the south, a feed man told a group of poultry people in Gainesville last week.

W. L. Lavery, manager of the William Davies Co., Inc., producer of Swisher Feeds, said in an address to customers and friends of Lanier Feed Mill at an annual meeting that Georgia offers many advantages (such as climate and progressiveness) to wean the egg business from other sections, especially the Midwest.

The broiler business was brought to Georgia because of some of these conditions, and the commercial egg industry can also be brought South, Mr. Lavery said.

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UP OR DOWN

By Dr. Leonard W. Schruben, Agricultural Economist, Kansas State College

Feed Situation And Outlook

This year U.S. farmers harvested a near record crop of feed grains. They are corn, grain sorghum, oats and barley. Both corn and grain sorghum (milo) are close to previous record outturns.

One of the best over-all ways to size up the feed situation is to look at the tons of concentrates available for each 100 animal units. An animal unit is equivalent to one milk cow as far as feed consumption is concerned.

This year a new record of about 164 tons will be available per 100 animal units (see exhibit). On the basis of the long time average rate of about 80 tons per 100 animal units, you can see there is about two tons available for every ton that will be needed. In recent years, however, due to abundant feed supplies and reasonably favorable feeding ratios, farmers have been feeding about 95 tons per 100 animal units and are expected to continue feeding at this heavy rate.

Despite this heavy rate of feeding, you can see by examining the accompanying exhibit that the feed concentrate supply has gone up nearly every year since 1951. Based upon the latest crop report, additional supplies will be added to the surplus this year. It has been a long time since a crop of feed grains has all been fed out before the end of the season.

Grain Sorghum and Corn

Two fall-harvested feed grain crops are of special interest to feed manufacturers. They are grain sorghum and corn. Grain sorghum production has doubled and more with the new hybrids, development of irrigation, summer fallow and wheat acreage allotments making more land available for this crop. It truly is a new giant among feed grains.

The crop harvested this year is the fourth season in a row that a large crop has been harvested. Currently the U.S. crop is estimated at 603 million bushels. The U.S. crop lacks only 1% matching the 1958 record. The Kansas crop is a new record.

A record supply of old crop milo was on hand at the beginning of the current feeding season. It is about 585 million bushels which would be equal to one of those big crops we've had for the last four years. Most of the carry-in is in commercial storage.

The big crops and comparatively low price of milo continue to encourage the finishing of cattle and starting the hog business in the Southwest.

Milo, as grain sorghum generally is called, is an excellent feed as many livestock men are discovering. Milo is worth about 95% of corn on a pound per pound basis when fattening cattle or hogs according to the results of current research. Some experiments show milo equal to corn. When feeding dairy cattle and fattening lambs, milo is considered to be equal to corn pound per pound.

"A Lot of Corn"

The 1960 crop of corn at 4.3 billion bushels is almost as big as the 1959 record of 4.4 billion bushels. This is a lot of corn, more than will be fed this year. Don't look for the corn surplus to go away. Even though the 1960 crop may be a few million bushels smaller than harvested last year, the over-all supply of corn will be largest on record. This is because of the increased supply of old corn on hand when harvest began.

Surpluses of corn have increased year by year and at the beginning of this feeding season there will be about 6 billion bushels available. Normally between 3 and 3.5 billion bushels are used, but last year's heavy feeding pushed this figure above the 4 billion bushel mark for the first time.

The export market for feed grains is growing. Particularly is this true in foreign countries where incomes are rising. In these countries people are eating more livestock products. The growing export markets are good news for grain producers, but you should not expect them to take all the surplus grains that can be produced in the U.S. without a consistent hard hitting market development program. A start on this work is being made by producers, exporters and the U.S. Department of Agriculture.

What about prices? Kansas State economists expect the prices of corn and grain sorghum to go up moderately following harvest. After the first of the year, fairly steady prices are expected. There is too much feed available for any substantial increase in prices, at least before midsummer.

Feed Consulting Firm Organized in Arizona

SCOTTSDALE, ARIZ. — The Arizona Feed Consulting Service has been established here by Gordon Shillingburg, formerly feed sales and feed consultant for Producers Cotton Oil Company of Arizona, Phoenix, for nine years.

His background of study has been in economics at Pomona College in California and his bachelor's and master's degrees were received at the University of Arizona in animal husbandry and animal nutrition. He has done advanced graduate work in animal nutrition at Oklahoma State University. He has been associated with the sheep and cattle business and his father has a cattle ranch in Colorado.

Mr. Shillingburg states that the main purpose of the Arizona Feed Consulting Service is to furnish technical assistance to cattle feedlot operators, ranchers, dairymen and feed manufacturers. Such technical assistance will include evaluation of various feeds and feed products on the market, ration formulation and assistance, and chemical feed analysis where it is deemed necessary. He will also be available to supervise and evaluate feed experiments. His temporary office is at 4321 N. 68th Place, Scottsdale, Ariz.

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Search for Unknown Growth Factors Told

MADRID, SPAIN—The search for a new unknown growth factor or factors in feed was described at the International Symposium on Animal Feeds and Nutrition here Oct. 19-21 by Dr. James McGinnis, Washington State University poultry nutritionist and department head.

Sixty animal nutritionists from 16 countries participated in this symposium sponsored by the Foreign Agricultural Service of the U.S. Department of Agriculture, the Soybean Council of America, Inc., and the U.S. Feed Grains Council.

Dr. McGinnis commented that the unknown growth factor or factors being sought by Washington State University poultry scientists are found in water-treated barley, oats, rye and wheat. He said that the water treatment puts the small-grain cereals on a par with corn in weight gains and feed utilization by chicks and poults.

The Washington researchers are pursuing the possibility that the unknown growth stimulant is an enzyme and/or an antibiotic, the speaker said. They believe that either or both could be produced by fermentation of microorganisms growing on the surface of the grain when it is water treated.

The researchers have found that enzymes added to the small feed grains do step up growth and feed use, Dr. McGinnis reported. No enzyme or combination of enzymes tested to date, however, has produced gains equal to those obtained from the water-treated grain.

The scientists feel there is also a possibility that untreated barley contains a growth inhibitor that interferes with the metabolism of barley components. An enzyme produced by the water treatment could be inactivating the inhibitor, thus permitting chicks and poults to make full use of barley nutrients.

WSU poultry scientists who are trying to track down the unknown growth promoter include Dr. Leo S. Jensen, Dr. K. C. Leong, Dr. James McGinnis and H. E. Willingham and J. M. Thomas. Raymon E. Fry and J. B. Allred have also contributed to the research.

The discovery that the water-treatment or enzyme addition to small grains could step up their value as poultry feed was first announced by the WSU researchers in 1957. Since that date, they have been trying to isolate the factor in water-treated barley responsible for boosting the feed value of barley from 70 to 100% of corn, said Dr. McGinnis.

Borden Co. Earnings, Sales Up for Period

NEW YORK—Borden Co. sales and earnings for the first nine months and the third quarter were up over those of 1959, according to a report by Harold W. Comfort, president of the firm.

Sales for the first nine months of 1960 were $713,241,960, up 2.2% from the comparable $698,059,820 figure for 1959. Nine-month earnings were $20,759,258, up 9.1% from the $19,033,584 figure for 1959. Earnings per share were $2.09. This compares, after adjustment for a Jan. 5 two-for-one stock split, with $1.93 for the nine-month period of 1959. Provision for federal income taxes for the 1960 nine-month period was $19,039,741 compared with $18,287,199 in the comparable year-ago period.

The 1960 third quarter sales were $241,754,600, up slightly from the $241,606,664 of the 1959 third quarter. Earnings were $7,365,100, up 3.7% from the year-earlier $7,100,678. Third quarter earnings per share were 74¢ on the 9,900,830 shares outstanding Sept. 30. After adjustment for the stock split this compares with 72¢ a share on 9,833,272 shares for the 1959 third quarter. Provision for federal income taxes for the third quarter was $6,290,585 compared with $6,822,234 in the comparable year-ago period.

As a result of unseasonable weather, which adversely affected sales of ice cream and milk products, Mr. Comfort noted, company sales and profits failed to reach expected levels. The figures presented are subject to audit and year-end adjustments.

Board of directors of the firm has declared a quarterly dividend of 37½¢ a share payable Dec. 1 to stockholders of record Nov. 9. This brings total 1960 dividends to $1.50 a share as compared with $1.40 in 1959 after adjustment for a two-for-one stock split.

Gifts from Bags

CHICAGO — Ideas for sewing Christmas gifts from cotton feed and flour sacks were scheduled to be featured in a display at the National Home Demonstration Agents' Assn. meeting here.

The design of the Textile Bag Manufacturers Assn. exhibit at the meeting in the Hotel Sherman carried out a theme of pre-Christmas sewing and booth visitors were given patterns and suggestions for making toys, kitchen accessories and novelty items from cotton sacks.

Nearly 700 local home agents, state and national extension service supervisors, and other home economists from throughout the nation attended the meeting.

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INQUIRIES APPRECIATED

Food Editors Guests At Chicken Dinner Sponsored by NBC

NEW YORK — One hundred and fifty food editors attending the 18th annual Newspaper Food Editors Conference were entertained at a reception and dinner sponsored jointly by the National Broiler Council and Ac'cent-International at the Metropolitan Museum of Art here.

Setting for the dinner was the museum restaurant. It marked the first time a dinner for a food group had been held at the museum, usually restricted to art, architecture and fashion groups.

Following the dinner which featured a chicken dish, the editors heard talks by: H. D. Weber, National Broiler Council; George B. Hamilton, vice president, Ac'cent International, and James J. Rorimer, director, Metropolitan Museum.

Mr. Weber pointed out to the editors the advancements the broiler industry has made. The breeding, hatchery, feed, growing and processing segments of the industry have worked together to bring the consumer an outstanding food value of higher quality than ever before, he said.

"Chicken," Mr. Weber pointed out to the editors, "has long been one of America's favorite foods and now the consumer is discovering how good it is for her family." According to USDA figures and statistics from other research organizations, chicken is higher in protein than any other meat and costs less per pound of edible portion than any other popular meat. "Consumers have always served a lot of chicken in the spring and summer," he said. "Now they are thinking more about it for the winter months, too, when families are less active physically. Chicken is an excellent wintertime food because it is protein-packed, but lower in calories than practically any other meat. Since chicken can be served in such a variety of ways, it makes weight watching a pleasure."

At each of the tables there was at least one representative of the National Broiler Council. This gave the NBC representatives a chance to tell the broiler story first hand to the editors. Attending were: Dr. T. Dale Alford, Little Rock, Ark.; G. E. Coleman, Exeter, N.H.; Frank Frazier, Richmond, Va.; Harry Grant, Waltham, Mass.; Robert McGowan, Waterville, Maine; G. R. Peterson, Richmond, Va.; Dennis W. Ramsey, Rose Hill, N.C.; George Roach, Bridgewater, Mass.; Harold Snyder, Dardanelle, Ark.; Willard Strain, Dalton, Ga.; J. M. Tankersley, Gainesville, Ga.; Beverly Warner, Waltham, Mass.; Howard C. Pierce, New York City, and H. D. Weber, Glastonbury, Conn.

Rebuilding Slated by Oregon Feed Company

MONITOR, ORE.—Plans are being made for rebuilding the Monitor (Ore.) Feed Mill, which was destroyed by fire in June, according to Marcus Vetter, owner.

"I definitely plan on rebuilding the mill, and I'm studying blueprints now," Mr. Vetter said. "I'll build on approximately the same site, but I don't think we'll start until after the first of the year." He commented that he had carried only enough insurance to cover his mortgage on the burned mill.

Chemist Honored

SALEM, ORE.—The Association of American Feed Control Officials in Washington, D.C., has honored a Salem man for the fifth straight year as tops in the nation in work on chemical analysis of products. He is James Launer, state department of agriculture chemist.

The association's committee monthly sends samples of materials to state and private laboratories to be analyzed. When the samples are returned the committee determines which has been analyzed most correctly.

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Arbor Acres — Mount Hope Queens will soon be available from established hatcheries at the low price made possible by Arbor Acres' unique, new distribution method. Strain cross breeder flocks are now being housed on Arbor Acres' farms close by every important egg-producing area. The Queen hatching eggs these flocks produce are being offered to hatcheries near you. Since Arbor Acres' facilities for breeding research and nationwide distribution are already in operation, there is no need to write off a large initial investment by the sale of breeding stock at premium prices. Your hatcheryman pays only one price . . . he pays no royalties and no supply flock overhead . . . he faces no glut of eggs when prices are down. He saves and passes this saving on to you along with a great strain cross pullet.

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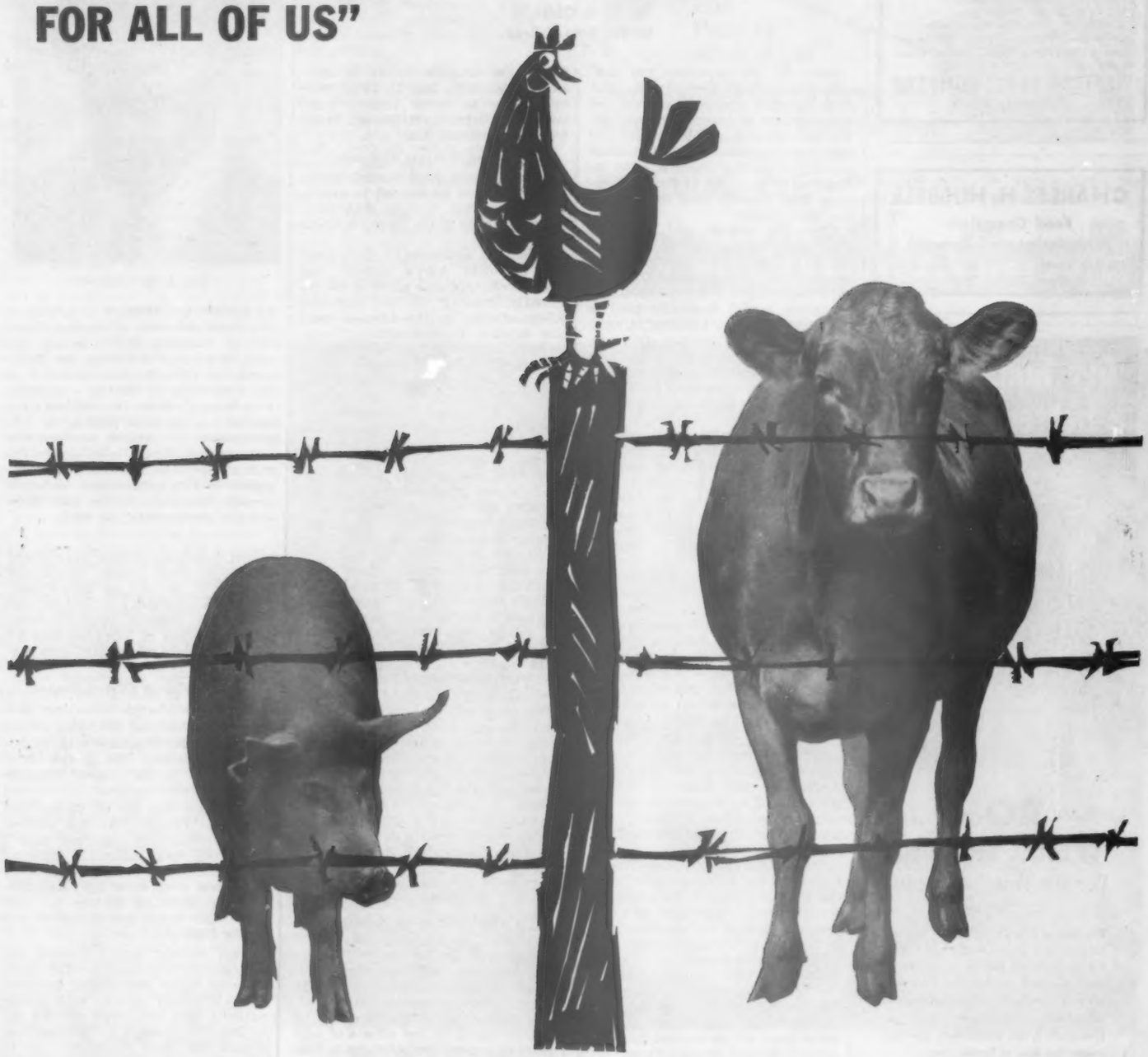

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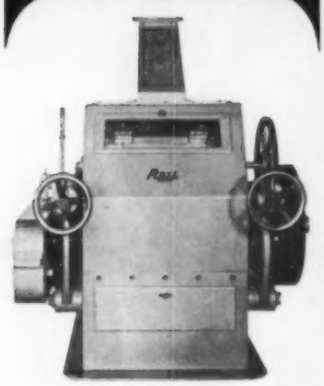

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Enzymes In Swine Feeding

Dr. J. E. Oldfield
Oregon State College

Since all life processes are ultimately dependent on enzymes, and since enzymes generally possess the characteristic of being extremely potent materials—a minute amount will influence the metabolism of a large quantity of nutrient material—the inclination to make use of them in livestock and poultry feed formulation has been strong.

While all animals and birds are plentifully equipped by nature with numerous enzyme systems, the thought has been advanced that perhaps these may not always be adapted to the varied feedstuffs used in the highly complex business of modern agriculture. Therefore, this concept of lending animals a "helping hand" in the handling of their food nutrients has largely been behind the current interest in use of enzymes as feed additives.

Speculating for a moment, one can envision the time when enzyme mixtures may perhaps be tailor-made for specific feed mixes in order to promote maximum utilization. The potential for enzymes is thus bright, but a long road of research must be traveled to approach the ultimate goal.

As has been pointed out in Feedstuffs (March 26, 1960) in remarks attributed to Dr. L. A. Underkofler, although "the picture regarding the use of enzymes as valuable feed additives remains cloudy, enough favorable data are at hand to indicate that when we learn how and when to use enzymes there is a real potential for all classes of livestock."

Testing Procedures—Much of the information necessary for the successful application of enzymes to feeding practice must be obtained through feeding experiments with the animals themselves ("biological assay") rather than by chemical procedures.

The reason is obvious: The enzymes, to be effective, must act in the digestive tract of the animal, under its peculiar conditions of acidity, temperature and food content, and it is difficult to duplicate these conditions in the laboratory.

Chicks have been used in much of the pioneering work in enzyme testing. In fact, the work of the Washington State investigators (1) triggered much of the current interest in enzyme feeding investigations. With chicks, relatively small amounts of feed are necessary, and experiments can be completed in a short time.

Investigations carried out with swine, however, have suggested strongly that the digestive tract differences between poultry and pigs make transposition of data from one species to the other an uncertain proposition.

To cite specific examples: While Washington studies (2) with chicks show little difference between responses to whole or to pearled barley, our studies with swine (3) indicate marked superiority of performance on the pearled grain. Similarly, while water treatment of barley has improved its utilization by chicks (1), it has not resulted in similar improvement for swine (4), although in the latter case the grain was soaked in the whole kernel rather than in the ground form.

Most appropriate to this article is the fact that amylolytic enzyme additions to barley rations for poultry have resulted in more consistent improvement than similar additions to barley rations for swine. Thus although much basic data on enzyme action may be gathered through experiments with poultry (see, for example, the excellent review by Jensen in Feedstuffs, Aug. 13, 1960) their application in swine rations must largely be determined through trials with swine themselves.

Inherent Enzyme Systems

Some work of fundamental importance has been performed in assessing the enzyme activity that takes place naturally in the digestive tracts of swine.

Wood and associates (5, 6) at British Columbia have shown that marked changes take place in the enzymatic activity of the digestive juices of pigs as the animals grow and develop. Lactase activity is apparently high at birth, and remains so through the first two weeks of life after which it declines rapidly to a minimal level, while maltase and sucrase activities are both very low at birth, but increase to a maximum at 3-4 weeks.

Iowa workers, also, have shown that additions of both protein-splitting (pepsin, pancreatin) and starch-splitting enzymes (animal diatase or a fungal amylase) to baby pig prestarter rations resulted in improved utilization of certain components of the diet not normally handled efficiently by the young animals (7).

Both these series of investigations indicate potential benefits that may be gained from supplementation of the pig's natural digestive enzymes.

In addition to the pig's digestive enzymes, some aid in breakdown of diet constituents may be provided by enzymes inherent in the diet ingredients themselves. For example, all the common cereal grains produce amylase enzymes when subjected to controlled germination in the malting process. Barley is malted more commonly than other grains, and produces both α and β amylases; oats, corn and rice produce essentially only α-amylase (8). Here again, a potential exists for improvement of enzyme activity of common feed ingredients through processing methods.

Swine Feeding Trials

Since the variety of feedstuffs considered suitable for use in baby pig rations is somewhat limited, and since insufficiencies in certain enzyme components of the digestive tract of baby pigs have been noted, at times, it appeared logical to test effects of additions of enzyme preparations to baby pig diets.

In an extensive series of experiments, Catron and his co-workers (7) at Iowa showed a variable response to addition of the protein-splitting enzyme pepsin, at the level of 1% of the ration. Evidence suggested that the effects of this enzyme were affected by age of the animal, its "disease level," the type of protein in the ration and the time it took the ingested food to pass through the digestive tract.

Baby pigs responded better to pepsin additions than did growing pigs, and soybean-protein diets were improved more than were skim milk-protein diets. The stress of scours in the young pigs increased their response to the feeding of pepsin, and it was reasoned that response was greatest when the passage of the food through the digestive tract was most rapid (9).

With older pigs the responses to pepsin feeding have not been so encouraging. South Dakota trials showed that pigs from 3 to 8 weeks of age fed diets containing pepsin grew 14.8% more slowly and utilized their feed 14.4% less efficiently than those which did not receive the enzyme (10). Scottish workers (11) obtained somewhat similar results and concluded that pepsin aggravated scouring in the pigs on their experiments. Cunningham and Brisson (12) at Ottawa, Canada, similarly noted severe diarrhea in 2-day-old pigs fed soybean protein predigested with pepsin.

Dr. J. E. Oldfield

AUTHOR—Dr. Oldfield is professor of animal nutrition at Oregon State College, Corvallis. Before joining the staff there upon receiving his Ph.D. degree in 1951, he was educated at the University of British Columbia, Vancouver, Canada. Dr. Oldfield's research has involved studies on improvement of animal performance through nutrition, including barley ration improvement for swine as reported in this article, and on white muscle disease in cattle and sheep and fur abnormalities in mink.

Breakdown of Carbohydrates

More experiments have been carried out concerning the value of enzymes in the breakdown of carbohydrates, possibly due to the lower digestibility of the higher carbohydrates in swine rations.

The stage was set by Becker and Terrill at Illinois (13) who showed in 1954 that baby pigs less than 1 week old had difficulty digesting either sucrose or starch, while older pigs (over 9 weeks of age) had difficulty in handling lactose or milk sugar (14) which was tolerated well by the baby pig.

Such findings again pointed out problem areas in swine feeding where enzymes might conceivably be beneficial. Moreover, studies with human patients and with dogs carried out by Ivy (15) as early as 1936 had suggested that malt enzymes could be administered orally without losing their effectiveness completely through gastric digestion.

In 1957, Canadian workers (16) added malt amylase, pancreatic amylase and pancreatin at a level of 1% of the starch content of the diet of 2-day-old pigs without benefit in terms of growth rate, survival time or digestibility of the starch. In fact, these workers found the digestibility of the starch content of the diet to be nearly 100% even without the addition of enzymes. They indicated, however, that the total quantity of starch digested per unit of time was subject to considerable improvement.

Slightly more encouraging results were obtained by Florida investigators (17) who demonstrated that addition of various enzymes including pancreatin and sucrase improved efficiency of feed use, but not daily gains, of baby pigs on a feather meal, soybean oil meal and sugar ration. Later experiments (21) by the same investigators showed no significant benefits following use of diatase, pancreatin or sucrase in sugar and/or corn diets supplemented with dried skim milk, soybean meal, poultry meal or feather meal. However, the slight differences in gain and feed

efficiency were consistently in favor of the enzyme-fed lots.

Workers at the Rowett Institute in Aberdeen, Scotland, noted an advantage following α-amylase supplementation of baby pig diets in multiple enzyme experiments, involving various combinations of α-amylase, pepsin and antibiotics, but they reasoned that beneficial effects were due to suppression of scours due to use of pepsin rather than to starch breakdown per se (11).

Carbohydrate Splitting

Proceeding to the feeding of heavier feeder pigs, several studies have been carried out relative to carbohydrate-splitting enzyme additions at the Oregon Agricultural Experiment Station. Here the emphasis has been upon the improvement of barley, which is the most abundant local feed grain. It was shown in experiments over the weaning to slaughter weight range that pigs did not respond to water treatment (soaking and drying) of barley, nor did they respond to additions of certain commercial amylase enzymes added at levels of from 0.5-2.0 gm. per pound. There was, however, a slight, but consistent improvement in efficiency of feed conversion when barley malt was added to grower rations at a 2.5% level. Representative data showed daily gains of grower pigs averaging 1.71 pounds on a corn ration as compared to 1.47 pounds on a barley ration, and 1.54 pounds on barley supplemented with amylolytic enzymes.

When 2.5% barley malt was added to a soaked-and-dried barley ration, feed efficiency figured at 3.95 pounds feed per pound of gain as compared with 4.18 pounds on the barley control diet (18). When barley malt additions were raised to 10% of the diet a growth depression and lowered feed intake occurred suggesting lowered palatability.

Later experiments compared barley and corn rations in the meal, pellet and pellet-reground form for growing pigs (18). The last treatment was included to investigate whether the heat and moisture applied in steam pelleting might activate the grain enzymes. By grinding up the pellets, any physical effects due to compression of the feed would be removed, leaving a clearer picture of any chemical (including enzymatic) changes.

Pelleting improved gains and feed conversion on barley rations, both with and without barley malt, but not on corn rations. Advantages were not carried through when the rations were pelleted, then reground, suggesting that the benefits of pelleting are physical rather than chemical in nature and do not involve enzymatic activity. North Dakota workers (19) have recorded similar responses of fibrous grains to pelleting.

For Growing Pigs

The addition of amylolytic enzyme preparations to rations for growing pigs based on non-fibrous grains has not been proven beneficial. Representative of experiments of such nature is the work of Peo and Hudman (20) of Nebraska who recorded rates of gain with and without amylase supplementation of 2.05 versus 1.99 pounds and 2.21 versus 2.16 pounds on corn and milo rations, respectively. Efficiency of feed conversion likewise was not significantly improved.

The picture then, thus far at least, is not encouraging for the use of enzymes as feed additives in swine rations. The responses noted have not been generally as consistent nor as large as noted by many investigators with poultry.

Undoubtedly the differences in the digestive systems of swine and fowl play their part in mediating the effects of enzymes in these species. The acidity of the hog's stomach, for example, through which enzyme feed additives must pass to reach the intestine, is much greater than that of the crop of poultry.

It is intriguing to speculate on the future of feed-enzyme studies with swine. Selection of enzymes having high acidity activity characteristics, or pre-treatment of feed with enzymes under optimum conditions pri-

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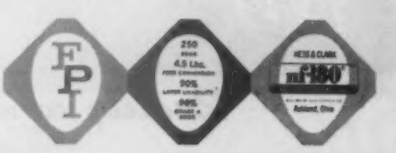

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or to offering it to the animals may yet enable the potential for enzyme benefits to be realized.

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FTC Files Complaint Against Feed Man

WASHINGTON — The Federal Trade Commission this week issued a complaint against Jack M. Rawlings, Jr., a McComb, Miss., businessman, on charges of receiving brokerage on purchases for his own account in violation of Section 2(c) of the amended Clayton Act.

"In addition to trading as Meredith Milling Co., a substantial factor in the animal feed business, Mr. Rawlings trades as J. M. Rawlings, Jr., broker," FTC said. "In the latter capacity he sells cottonseed meal and hulls, soybean meal and related products for various seller-principals, and is paid an agreed-upon commission by them, the complaint says.

FTC alleges that Mr. Rawlings frequently buys these products for use in his own feed mill and accepts brokerage or discounts in lieu of brokerage on such purchases.

Mr. Rawlings was granted 30 days in which to file an answer to the complaint.

Soybean Mill Opens

STUTTGART, ARK. — A new $3 million soybean processing mill of the Arkansas Grain Growers Corp. has gone into operation here. The mill was constructed and will be operated by the Arkansas Grain Growers.

L. C. Carter, general manager, Arkansas Rice Growers Assn., is also general manager of the soybean cooperative. The cooperative's mill is the first of its nature in Arkansas and the extraction unit has a daily capacity of 26,000 bu. or 800 tons.

The first carload of soybean meal went to the Arkansas Valley Industries of Dardanelle, Ark., integrated poultry and general farming business.

The Arkansas poultry industry is expected to be the main buyer of bean meal which will go to feed mills for the poultry industry.

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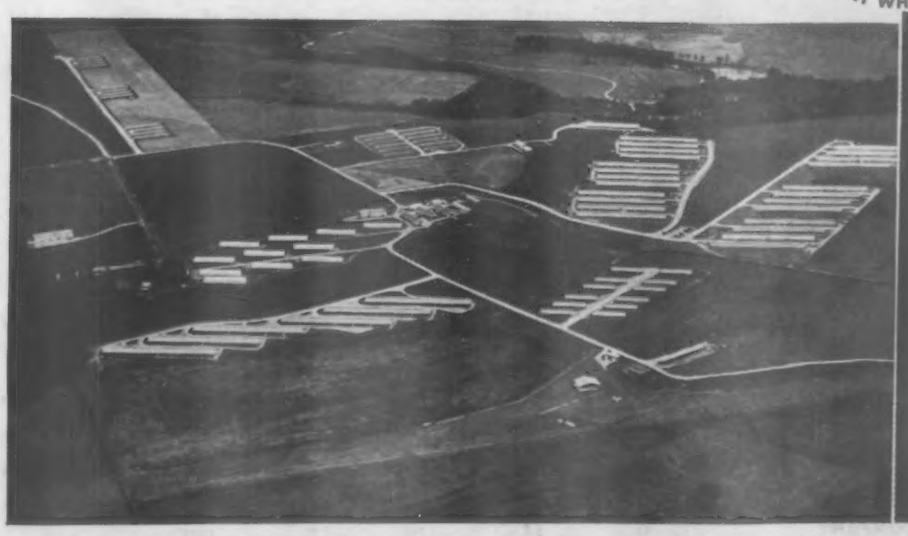

What Is the Future of the *Poultry Business in New England?*

By D. C. Henderson
University of Vermont

What is the future of the poultry business in Vermont? The answer to this question affects the livelihood of everyone: You in the feed trade, merchants in the villages and farm families.

At the present time, roughly 60-65% of commercial feed mixes sold annually in the U.S. is consumed by poultry. To the extent that this percentage holds in Vermont, the feed business and consequently our living is affected. If the poultry business expands, the volume of commercial feeds sold will increase. That is, the poultry industry can contribute more for a better living in Vermont. Conversely, if the poultry business becomes of less importance, the agricultural income may be cut down and, of course, the volume of purchased feed sold becomes less. It's as simple as that.

What are some of the factors that you expect will play a part in shaping the future of the poultry industry in Vermont? How does our competitive position compare with that of other states and of other regions? Can we determine our direction and course from a study of the past What factual information do we have that will throw light on the subject and be of help to us in predicting the future?

Here are a few basic facts that we should keep in mind:

1. GEOGRAPHIC LOCATION — We, here in Vermont (and northern New England) are in a relatively favorable geographic position. We are living within a few hundred miles of 10 million New England consumers in one of the most concentrated population areas in the U.S.

2. DEFICIT AREA—We are living in a deficit area for both eggs and poultry meat. It is estimated that, in 1958, we were able to produce only two thirds of our market egg needs. That is to say, one third of the market eggs must be brought in from other regions. (See Table 1.)

3. URBANIZATION—We are living in an area (Vermont and northern New England) that has not greatly felt the effects of "urbanization." This "urbanization" seems to result in higher land values, higher real estate taxes and a heavier burden on the agricultural enterprises of the area.

As Commissioner Elmer E. Towne of our Department of Agriculture recently said, "Relatively low property taxes per acre have encouraged dairying in Vermont." Conversely, high property taxes, which seem to go along with "urbanization," place a heavier load on the poultry enterprise in a region.

4. TRENDS—Northern New England had an increase in poultry numbers between 1940 and 1950 and also between 1950 and 1958. Likewise, egg production increased in this area in the same two periods.

On the other hand, southern New England has shown a decrease in poultry numbers between 1950 and 1958 of more than 16%. Egg production has decreased by roughly 4½%. This information is shown in Table 2.

5. FAMILY FARMS—We are living in an area of "family" farms. We appreciate the fact that specialization has occurred and that flocks of a few hundred birds are practically non-existent today. Our poultry farms now are less in number than a few years ago. They are now carrying several thousand birds per man. However, the farms are still family units as contrasted to the corporation set ups in other areas.

This question may arise: "Can the family unit successfully compete with the corporation set up?" Let us consider that question for just a moment.

Advantages of the family farm are:

a. We have a flexibility in the cost of labor which no corporation set up can match. The 40-48 hour week with paid vacation does not apply.

b. There are no costly management or supervisory salaries to pay.

c. Top efficiency in labor and equipment is possible. An individual working on his own farm may be more interested in obtaining maximum efficiency than would workers on a corporation-type set up. The individual may have a greater financial stake in the farm business.

Harry Grant (Wirthmore Feeds, Inc., Waltham, Mass.) recently stressed the importance of feed efficiency with the following illustration:

Importance of Feed Efficiency

4 lb. feed to produce 1 doz. eggs vs. 5 lb. feed to produce 1 doz. eggs.
100 lb. of feed will produce:
100 lb. ÷ 4 = 25 doz. eggs
25 doz. × 35c doz. = $8.75, value of eggs from 100 lb. feed.
100 lb. ÷ 5 = 20 doz. eggs
20 doz. × 35c doz. = $7, value of eggs from 100 lb. feed.
$8.75 — $7 = $1.75 greater value from every 100 lb. of feed used where conversion improvement is 1 lb. feed per dozen eggs (at 35c doz.).
$1.75 × 20 = $35 ton.
For every .1 lb. improvement in feed efficiency with eggs at 35c doz., you increase the value of feed as follows:
100 lb.—17.5c.
1 ton—$3.50.

d. As an investment opportunity (as Frank Reed of Maine expresses it) one would need rocks in his head to become interested in a corporation type farm with prices as unstable as at present. The family unit, because of greater flexibility, is better able to take the ups and downs of the business.

Disadvantages of the family unit may be:

a. Smaller poultrymen, in some cases, are paying as much as ½¢ lb. more for feed than the extremely large poultrymen. This means 2-2½¢ per dozen eggs added to their cost. As Oliver Hubbard of Hubbard Farms, Walpole, N.H., says, "When you figure the feed consumed raising the bird as well as during the laying year, this can mean 50¢ or more added cost for the small producer."

It takes roughly 25 lb. of feed to raise a pullet to laying age. This same pullet will consume 75 lb. of feed (at least) during her laying year. This adds up to 100 lb. A difference of ½¢ lb. on 100 lb. of feed would amount to a total of 50¢.

b. The family-sized flock owner may or may not be at a disadvantage in marketing his products. This will depend upon his program. The corporation size unit can quite easily arrange to have a uniform production through the year, while the small producer has a problem in getting this flexibility of production.

c. The family unit may not have the financial reserves needed to withstand a period of unfavorable egg prices. Furthermore, he may have difficulty in getting adequate credit at an interest rate that will make him competitive with the corporation type unit.

Weighing the advantages and disadvantages of the family type farm

EDITOR'S NOTE: The author, chairman of the poultry department at the University of Vermont, concludes: "It is my conviction that here in Vermont (and New England) in the future we will see flocks of from 3,000 to 10,000 laying birds cared for by the owner and his family and possibly one hired man."

Prof. Henderson also believes that commercial poultry farms in the Midwest "will have the greatest effect on our future egg market here in New England."

His article was first presented as a talk at the Sept. 29 annual meeting of the Vermont Feed Dealers and Manufacturers Assn. at Burlington, Vt.

TABLE 1. Production-Consumption Balance—Eggs—New England

	1940	1950	1955	1958
Consumption:				
Population (total)	8,437,000	9,319,000	9,688,000	9,961,000
Per capita consumption	319	389	371	349
Eggs required (million)	2,691	3,625	3,594	3,476
Production:				
Total eggs (million)	1,688	2,747	2,785	2,844
Less hatchery eggs*	205	455	496	498
Table eggs	1,483	2,292	2,289	2,346
Deficit:	1,365	1,333	1,305	1,130
Per cent requirement produced	55%	63%	64%	67%

*Calculated as follows: 132 hatchery eggs sold per average breeding bird. Average number breeders estimated at 75% of breeders tested by official state agencies (Sept. 24, 1959).

TABLE 2. Trends in Egg Production
Average Number of Layers (thousands)

	1940	1950	1958	—Per cent change— Since 1940	Since 1950
Northern N. E.	4,497	7,106	7,525	67.3	5.9
Southern N. E.	6,840	9,902	8,305	21.4	—16.1

Egg Production (millions)

	1940	1950	1958	—Per cent change— Since 1940	Since 1950
Northern N. E.	659	1,149	1,325	101.0	15.3
Southern N. E.	1,029	1,598	1,524	48.1	—4.6

TABLE. 3. Hypothetical Tabulation Illustrating Inelastic Demand for Eggs

Farm price (cent, doz.)	Quantity sold (bil. doz.)	Gross revenue (mil. $)	Variable cost (cent, doz.)	Total variable cost (mil. $)	Gross revenue less variable cost (mil. $)
30	5.2	1,560	32	1,664	—104
35	5.0	1,750	32	1,600	+150

From Connecticut Bulletin 351, December, 1959, "Feasibility of Marketing Orders."

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The establishment of broiler growing, several years ago, is typical of Bridges service. The Dealership introduced broilers to the Austin area. Today, Bridges Farm and Ranch Supply has three Purina-trained servicemen to work with growers . . . and the Dealership helps sell the birds with consumer advertising.

Bridges' service touches all phases of livestock and poultry growing within a score of miles of Austin. Farmers and ranchers of the area express their appreciation of the service by the substantial volume of their purchases of Purina Chows and supplies.

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Purina Salesman Dale Whitson works as a "sales partner" with the Bridges organization. He helps hold group meetings of farmers and ranchers to present Purina Research developments and to keep rural folks up-to-date on progressive animal agriculture. He does on-the-farm selling and service and helps with business management.

Three Purina-trained men on the Bridges staff devote full-time to service. Another employee is in training to add to the staff. Here, left to right, are Ed Edmiston, Travis Boykin and Buck Moore.

The Purina accounting system, developed specifically for dealer use, is followed by Mrs. Maurice Clarke, bookkeeper for Bridges Farm and Ranch Supply. Purina assistance in business management is an asset to Dealerships.

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we come up with this as a unit in the future: 3,000 to 10,000 layers operated by the owner and his family and possibly one hired man.

This size unit is flexible in operation, labor costs are relatively low, feed and equipment can be purchased to good advantage, a uniform production program can be developed and eggs and poultry meat can be marketed advantageously either direct to consumers in this deficit area or through a central egg marketing organization.

6. CREDIT—A most important factor determining the future of the poultry business in Vermont and in northern New England is that of credit. If we are to have the family-type farm caring for from 3,000 to 10,000 layers, it would mean, today, an investment of $30,000 to $100,000. This is a sizable sum of money.

I believe that the feed industry is interested in working with outstanding young people, who in the opinion of their representatives will be successful in the poultry business. I likewise believe that the feed representatives are of the opinion that their business is that of producing and selling feed and service and doing as little financing as possible. Therefore, if we are to have laying flocks of from 3,000 to 10,000 layers operated by the owner and his family with possibly one hired man, credit must be forthcoming from some place.

Very few individuals just getting started in the poultry business today are able to raise the required amount of capital. Likewise, it is extremely difficult to start on a small scale and derive a living just from the business, as we so well realize and appreciate. As we increase the individual size of the poultry enterprise on the farm, it is usually necessary to increase the borrowing capacity of the farm family.

I believe that we should move in the direction of having the outstanding, progressive-thinking and well-educated men and women producing and marketing poultry products in Vermont. It would seem that the future lies in the young people, rather than in the people who have passed the prime of their ability to produce.

7. INTEGRATION—Will we have integrated or independently-owned poultry enterprises in the future? Let us examine this question rather carefully. In a completely vertically-integrated poultry business, as Frank Reed of Maine recently said, "There is no place for competitive feed trade. There is no place for the feed serviceman or the feed salesman." It is a case of the tail wagging the dog.

8. OUR FUTURE COMPETITION—We have concerned ourselves for many years (and rightly so) with competition from other regions. We recognize the fact that the Midwest has only 29% of the population and produces nearly one half (47%) of the nation's eggs. All deficit producing areas draw from this region.

This tremendous pool of eggs which may be moved to any part of the market enforces a uniform price level in all areas. (Reference: Connecticut Bulletin 351, December, 1959, "Feasibility of Marketing Orders.") Eggs can be transported from the Midwest to eastern markets within two days at a transportation cost of 3-4¢ doz. Ice-packed eviscerated broilers can be shipped from the Southeast to Boston within 24 hours for a cost of 1 or 2¢ lb.

Eggs and poultry meat produced in any part of the nation influence the prices received in other areas. The effort of handlers to ship to the market that will return the highest net price keeps all markets related. Prices in surplus and deficit areas differ roughly by the cost of transportation.

As James Timberlake of the New England Egg Producers Assn. recently said, "The realities of the problem urge me to emphasize that the producers' margins will work steadily lower and lower. This will hold whether the producer is currently a Vermont poultryman or is a producer who is thinking about getting into the business in Alabama. This trend will be accelerated as controls of any kind are introduced beyond those of a free market."

Where can we expect our competition to come from in the future? I expect that commercial poultry farms in the Midwest will have the greatest effect on our future egg market here in New England. With lower feed costs, quality control programs, central grading and rapid transportation this region may well be the one that will give us the greatest competition in the future.

The South has been a deficit egg area and still is. Even so, southern eggs have been coming into our New York and Boston markets and hurt our prices out of all proportion to the volume.

Let me illustrate: Eggs have an index of elasticity of about .3 at present. This means that an increase in supply of 1% will produce a decrease in price over 3-4%. A small surplus of eggs on our eastern markets did (and will) depress our prices out of proportion to the volume. That is, demand for eggs is said to be inelastic.

Conversely, a reduction in supply of eggs will bring about a relatively large change in price and thereby increase the gross income. A decrease of 1% in the supply of eggs will increase the price over 3-4%.

The hypothetical tabulation in Table 3 illustrates this inelastic demand for eggs.

More About Competition

More about southern market egg competition in the future:

As previously mentioned, the South does not produce enough eggs for their needs. However, instead of developing local markets, they chose to ship to New York and Boston. Many people got burned, and in 1960 cut their replacements by 50%. After this burning, the southern egg producer is looking twice at the commercial egg business. It would therefore seem logical to expect competition to come from the Midwest rather than from the South. The South still has a local market to develop and supply; it is a deficit area.

The Midwest, rather than the South, is the region that, potentially, can give us the greatest competition in the future.

I was born and raised in De Kalb County, Illinois, which is one of the leading agricultural counties of the

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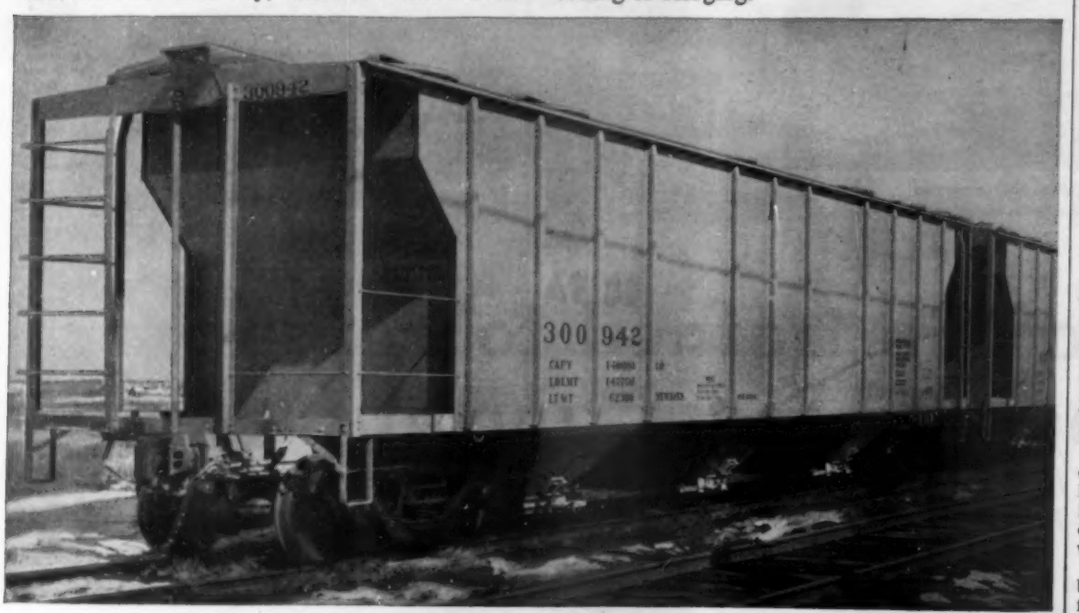

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U.S. Recently I visited in this area and talked with livestock farmers, business men merchants and so forth. Without exception I was told that they could see no trend toward a greater poultry industry in this area under conditions existing now. However, the potential is there if the cost-price relationship should change.

The demand characteristics for broilers appear to be quite different from that for eggs. When compared with eggs, broiler prices are much less sensitive to changes in supply. The best information available indicates that the price elasticity of demand for broilers at the farm may be —1.6 or greater. This means that a 10% decrease in broilers available for market might raise the farm price by only 6%. Thus, if the same degree of price improvement is desired for both broilers and eggs, the per cent reduction in supply must be greater for the broiler industry.

9. ST. LAWRENCE SEAWAY—It is expected that the Northeast, because of the St. Lawrence Seaway, will be able to purchase feed at a cheaper rate. Just how much this savings will amount to is impossible for me to say at present.

10. LABOR—Feed and labor are two of the most important factors in determining production areas. Feed costs in the Northeast are in general from $5 to $10 ton higher than in the Midwest. However, with the St. Lawrence Seaway it may be possible that this difference will be less in the future. Furthermore, we know that some poultrymen are able to purchase feed at from $5 to $10 ton less than other poultrymen in the area.

The cost of labor in the Northeast is relatively high. This is shown in the following table of 1958 comparable farm wage rates in nine regions:

Farm Wage Rates by Areas—1958

Area	$ Per Hour
Northeast	$1.00
North Atlantic	.87
East north central	.87
West north central	.83
South Atlantic	.61
East south central	.59
West south central	.75
Mountain	.89
Pacific	1.19
U. S. average	$ .81

It is true that we do have a high labor charges in this area but this difference in wages may be overcome if labor is more efficient. For example, if we keep twice as many birds per man as our competitors.

In general, as you get into the highly industrialized areas farm labor costs tend to be higher. Southern New England is more highly industrialized than is northern New England. It would seem that Vermont and the other two northern New England states in the future might have a lower labor cost than would be the case in southern New England.

11. CONCLUSIONS—I am optimistic about the future of the poultry business in Vermont. It is expected that there will be important shifts in production areas. It is my conviction that here in Vermont in the future we will see flocks of from 3,000 to 10,000 laying birds cared for by the owner and his family and possibly one hired man. This size unit is flexible in operation, labor costs are relatively low, feed and equipment can be purchased to good advantage, a uniform production program can be developed and eggs and poultry meat can be marketed advantageously either direct to consumers in this deficit area or through a central egg marketing organization.

As Commissioner Elmer E. Towne recently said, "In general, the best egg and poultry market is here in New England. This is an importing area. We have been careless about quality and have not developed top quality products in large volume and have not promoted them aggressively under brand names. Our markets are closely tied together, and our states are small. State brands or small private brands will not be as effective as New England trade names. The new New England Quality Seal, if carefully supervised with rigid quality control and centralized grading and packing, could be a great help."

v v

I am indebted to the following individuals for helpful suggestions, information and statistics in preparing this talk:

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Skimpy Rations Costly

Hog producers have been warned against trying to cut ration costs by skimping on vitamins, minerals and antibiotics. John H. Shropshire, extension livestock specialist at the University of Delaware, warns that this actually costs more money in terms of reduced gains.

He said that skimping on vitamins, minerals and antibiotics is a poor way to save because those items cost relatively little.

Mr. Shropshire said that soybean meal is a commonly used protein supplement and contains an adequate balance of amino acids but is low in several vitamins and minerals that hogs need.

He commented that adding these items, plus antibiotics, to a mixture of corn and soybean meal will greatly improve the performance of hogs.

◆

Poultry Feed Waste

Watering and feeding systems used in a poultry flock can have a lot to do with how much feed is wasted, according to Denver D. Bragg, poultry specialist at Virginia Polytechnic Institute.

He cited tests at Rutgers University which showed that feed wasted in drinking water can amount to about 3½ lb. per bird per year when an all-mash ration is fed to debeaked birds using a "deep pan" watering system.

Mr. Bragg pointed out for the poultrymen that tests also show that a shallow trough float-regulated watering system can reduce the amount of feed wasted in water. The test showed that birds will not pick all the feed they lose in the water even even if the water depth is as low as ½ in.

It was also pointed out that debeaking increases losses at waterers when mash is fed but saves dry feed at the feeders.

◆

Silage Feeding OK

A question asked by many dairymen these days is, "How heavily can silage be fed to dairy cows?" It is especially true of those farmers whose hay supply is low in both quality and quantity.

Pennsylvania State University researchers say that satisfactory results can usually be obtained when either hay or silage is fed as the sole source of roughage for dairy cows. They say the amount of silage fed depends largely on the situation on the individual farm. They say that if hay is in limited supply or low in quality, it is wise to practice heavy silage feeding (corn or grass) whenever possible.

The researchers say that the extent to which silage may replace hay is also dependent upon the ability of the animals to handle large amounts of silage. Dairy calves raised on a limited milk feeding program and fed lots of hay and grain at an extremely early age develop this ability to handle large amounts of roughage. It is pointed out that this is particularly true when high quality roughage constitutes the major portion of the ration from 6-10 months on.

Since the capacity of the cows may limit silage consumption, it is important that the silage to be fed heavily is of good quality to enable the animals to meet their dry matter needs, the researchers say. While some cows are being fed successfully on an all-silage ration, it was suggested that at least 4-5 lb. of hay be fed daily for optimum results in most herds.

Good-sized cows will often consume 80-90 lb. silage per day when it is full-fed, it was reported. For maximum consumption, the researchers recommended feeding the roughage in smaller than usual amounts but more frequently through the day.

◆

Gleaners Need Supplement

If fed protein while gleaning cornfields, cattle and hogs will gain anough more weight to more than pay the supplement's cost, University of Illinois Researcher G. R. Carlisle reports.

As proof, he cited a trial in which gains increased ¾ lb. per day when the cattle received a protein supplement. Each dollar spent for supplement returned $2.85.

The average of 13 Corn Belt experiments has shown that: Pigs receiving supplement gained ½ lb. more daily while gleaning cornfields; each bushel of corn produced 4.5 more pounds of pork when supplement was fed, and each pound of supplement saved 6.4 lb. corn.

Mr. Carlisle commented that if corn in the field is worth only 50¢

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bu., a supplement would have to cost over $6 cwt. before it would be too expensive to feed.

◆

Clean Light Bulbs

Poultrymen have been advised that dirty light bulbs produce more heat and less light and don't last as long as clean ones.

Boyd Bonzer, extension poultry specialist at South Dakota State College, says that temperatures of dirty bulbs may be up to 36° higher than clean bulbs of the same size. He further suggests use of reflectors over bulbs to direct the light downward where the chickens can use it.

For best lighting results, Mr. Bonzer recommends one 40 or 60 watt bulb for every 200 sq. ft. of floor space in the poultry house. He says that lights should be about 7 ft. above the floor. He also suggests giving preference to feed and water areas of the house.

In conclusion he reminds that chickens need 13-14 hours of light per day for top performance.

◆

Cannibalism Contagious

One factor of cannibalism among chickens that is not often considered is the contagious aspect of the problem, according to Dr. R. D. Creek, poultry department, University of Maryland.

Dr. Creek says that many factors —dietary, environmental and genetic —have been blamed as causative agents in cannibalism. He commented that although there is reason to believe that all of these do influence cannibalism, it is difficult to experimentally induce the malady by any specific treatment.

Substantiating his theory is a recent University of Maryland nutrition study in batteries where low protein diets were being used.

Arbor Acre males were being fed diets which contained only 30% of adequacy in terms of protein. There were 12 pens of 10 birds each all receiving the same diet, lighting, heating and floor space. In 11 of the 12 pens there was not one single case of picking. In the remaining pen seven of ten birds showed feather picking and two toe picking, according to Dr. Creek.

He commented, "It would appear from this data that once feather picking has started it becomes contagious and rapidly spreads throughout the pen. Perhaps diet, environment, genetics, etc., do induce cannibalism, and any incident, such as injury, which starts picking may trigger a chain reaction which becomes difficult to control."

Directs India Project

MANHATTAN, KANSAS—A Kansas State University dean has been selected to administer an important new Ford Foundation food production project in India.

Arthur D. Weber, Kansas State's dean of agriculture, will direct a $150 million five-year program which will carry out recommendations to help India increase food production.

Dean Weber's staff of 10 agricultural specialists from American universities, industry and the U. S. Department of Agriculture are to apply the best agricultural production practices, on a pilot or demonstration basis, to farms in 100 blocks. One block normally includes about 100 villages.

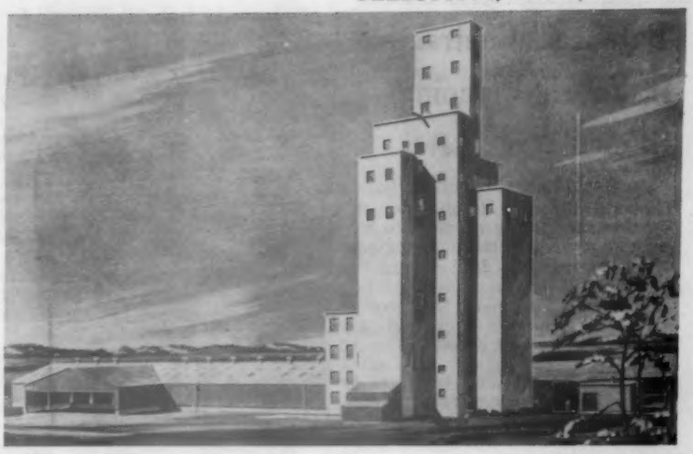
Cooperative Awards Contract for Plant

BALTIMORE — The contract for construction of the new plant of Cooperative Mills, Inc., here has been awarded to Weitz-Hettelsater Engineers, Kansas City, the lowest of seven bidders.

Originally designed and engineered by Weitz-Hettelsater, this new 35-40 ton per hour feed plant includes the mill building, warehouse, boiler facilities, service quarters, liquid storage and complete loading and unloading facilities.

A two-batch type mill, the plant will manufacture a complete line of feeds, including mash, pellets, crumbles, scratch feed and dairy feed.

Construction of this new $1,500,000 facility will start immediately and will require approximately a year of work before it can be put into normal operation, according to announcement by Weitz-Hettelsater Engineers.



NEW PLANT—A drawing of the new Baltimore, Md., plant of Cooperative Mills, Inc., is shown above. Weitz-Hettelsater Engineers, Kansas City, was the low bidder on the project. Weitz-Hettelsater also designed and engineered the facility.

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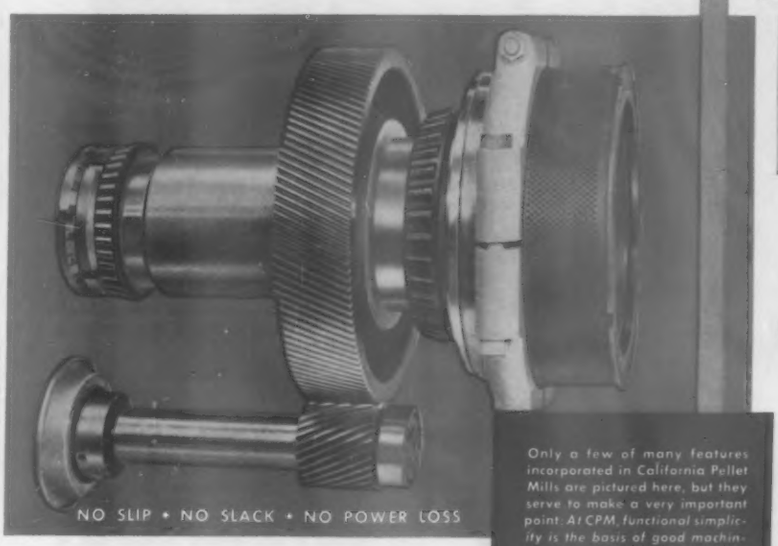

Only a few of many features incorporated in California Pellet Mills are pictured here, but they serve to make a very important point. At CPM, functional simplicity is the basis of good machinery design. Equipment is never just quickly added or changed simply to be "first" or different.

Direct Thrust Dies
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Easy Access Lubrication
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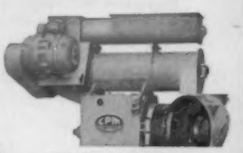
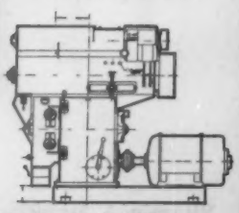


High-Capacity Mixer
Two-in-one design affords molasses mixing or conventional operation. Saves space. Saves on binning requirements.



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Integrally mounted on welded steel base. Less vibration; more pellets per square foot of machine.

Precision-Quick Roll Adjustment
The accessibility, ease and speed of CPM die change or roll adjustment is the industry standard for comparison. Aids die life, too.

Take our FULL POWER GEAR TRAIN DRIVE for instance. Belt drives have been around for generations, but modern power machinery practice clearly endorses direct gear drive as the surest, long-lasting power transfer system. Why does CPM build pellet mills with solid gear train drive when others adopt one belt system or another? The answer: *Basic engineering experience dictates this better, more costly system, and CPM sales volume makes it practical.* Another example: CPM's careful matching of dies, motor size and gearing for specific pelleting jobs – not just "jumping horsepower" to claim higher pelleting output.

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'Balanced' Contracting In Future Planning Of Southern States

RICHMOND, VA.—Southern States Cooperative has in its plans for the near and far future a move "to balance its poultry contracting programs with the need for feed volume required to keep its mills operating efficiently." The co-op "will expand these programs only as markets improve and efficient growers can be found," 1,700 delegates and retail agency personnel were told here by Howard H. Gordon, general manager, at the organization's annual meeting (Oct. 27-28).

Mr. Gordon prefaced those words with the explanation that the co-op's planned sharp reduction of contracting programs directly resulted in a decreased business volume in the 1959-60 fiscal year (Feedstuffs, Aug. 13). However, net savings were up.

He said Southern States and its affiliates ended the co-op's 37th year on June 30 with a total volume of business of $203 million, as compared with $240 million a year earlier—a decrease of about 17%. Sales volume for Southern States Cooperative alone was $125,715,500.

Though total business volume was off, net savings were up for both Southern States and its affiliates and for Southern States alone.

Net savings for Southern States and its affiliates totaled $3,680,000, and for Southern States alone it amounted to $2,237,800.

Mr. Gordon also told how Southern States "is adapting its programs to meet the changing needs of farmers."

Feed Volume Off

Mr. Gordon noted that the "planned reduction in contracting programs was largely responsible for a 200,000-ton drop in feed volume last year." He reported, also, that this reduction affected the volume—4% under the previous year—of general farm supplies handled by Southern States.

W. T. Steele, director of Southern States' wholesale service division, reported that even though the organization had planned some of the 1959-60 volume decreases through reductions in the contracting programs, it was impossible to bring manpower and other costs in line with the lowered feed volume as quickly as management would like.

In 1958-59 the cost of manufacturing feed at the cooperative's mills was $5.16 ton. Last year, however, costs rose to $6.03 ton. Total feed volume for 1959-60 amounted to 686,530 tons, a decrease of 28%.

Marketing

F. M. Armbrecht, comptroller, reported at the stockholders' session that "the dollar volume of grain, eggs and poultry marketed for farmers totalled $21,300,000 this year as compared with $20,900,000 last year, a net increase of $400,000."

Volume of affiliated petroleum cooperatives showed a slight increase, he said. The dollar volume of local farm supply cooperatives decreased $12 million, or 17%, as a direct result of the curtailment of poultry contracting programs.

Net Worth

Net worth increased about $1,500,000 to a new high figure of $38,600,000 as a result of the sale of new 5% preferred stock.

As of June 30, a total of 81% of the capital used by the organization was being furnished principally by farmers through their investments in stocks, equities and debenture bonds. The remaining 19% was being furnished by banks as compared with about 24% on the same date last year.

Mr. Armbrecht said, "After providing for dividends on preferred and common stocks, the balance of net savings was returned to the patrons as a patronage refund. The refund amounted to .5% on purchasing volume and .6¢ per bushel of grain marketed. The refund was payable 75% in cash and 25% in capital book equities.

J. E. Givens, director of the community services division of the cooperative, reported that "the 130 local affiliated farm supply cooperatives performed $60,100,000 worth of services last year. The 500 independently owned franchised agencies and non-affiliated cooperatives did another $60 million more. The 28 local petroleum cooperatives and their branches did over $14 million more."

Adapting to Changes

Southern States "is adapting its programs to meet the changing needs of farmers," Mr. Gordon said. He said the organization "must gear itself to better serve larger operations," and noted that the co-op's membership has shifted over a generation or so from one of almost entirely small farmers to one of many of the largest farmers in the organization's operating territory. "These larger farmers require a somewhat different pattern of service than do the small operators," he said. Also, he said, the organization must continue to offer services and benefits in the degree to which smaller operators are able to make use of the cooperative's supplies and services.

Last year, Southern States took a number of steps "that will mean better service to its farmer-members," Mr. Gordon said. "The reorganization of Southern States distribution system, changes in territory, development and modification of service programs were all aimed at putting the organization in position to handle the volume and services needed for efficient operations. This, in turn, will mean real and substantial savings for members."

A complete reorganization of the cooperative's retail distribution system was carried out during the year. Its five-state territory was divided into 10 operating regions, each with its own regional headquarters.

The cooperative reached an agreement during the year with the Tennessee Farmers Cooperative whereby on June 30 Southern States halted distribution of supplies in eastern Tennessee. It had served the area since 1947.

In the field of marketing, Mr. Gordon said, "The cooperative took steps to integrate its operations. The egg marketing affiliate was absorbed by the parent organization, providing greater flexibility in direction of this service. Greater attention is being given not only to eggs, but also to the grain and poultry phases of marketing."

Stabilized Vitamins report

Color Tracers for Quality Control

Dispersion of Important Micro-ingredients Checked With Accuracy . . .

• Quality control of manufacturing procedures at STABILIZED VITAMINS, INC. involves the use of edible colors with an affinity for specific micro-ingredients. By adding fixed quantities of these materials into the premix, the laboratory is able to evaluate quickly the quality of the dispersion. Color tracers become an excellent guide for controlling mixing efficiency of micro-ingredients such as vitamins. Color tracers can be designed to release color on contact with water. If water solubility is not desirable, the color tracers can be "sealed-in" during the Permadry process to avoid discoloration of feathering in the field.

More Vitamin E in Feeds

New Developments Indicate Use in Poultry Ration Increasing . . . . . .

• Nutritionists are watching the growth of solvent extraction processes which are destroying much of the natural vitamin E in protein supplements. Diets deficient in vitamin E show higher mortality rates, decreased growth, impaired efficiency, lower egg production and lower hatchability. Conditions of physiological stress are known to increase the need for vitamin E in the ration. Many feed manufacturers are considering including vitamin E supplement in their list of ingredients for 1961 registrations. The need for vitamin E supplement in a complete poultry ration is gaining recognition. Nutritionists are suggesting from 4,000 to 40,000 international units per ton of feed. For more complete discussion of the vitamin E problem, ask for bulletin PN-2.

Vitamin A Stability

Study Shows Value of Permadry Products in Feeds . . . . . .

• A recent leading eastern university publication on poultry research carried unusual information on vitamin A stability. Drastic oxidizing conditions were used to produce oxidative rancidity in rations. A number of commercial vitamin A preparations were evaluated. Of the products tested for high levels of vitamin A storage and prevention of vitamin A deficiency symptoms, the STABILIZED Permadry sealed-in vitamin A product rated best. Further details on this study and specific results are available in our bulletin PN-1.

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SOUTH DAKOTA

(Continued from page 16)

protein to make good utilization of the energy," he said.

USE OF PROTEIN SUPPLEMENTS—Mr. Seerley also reported that pigs fed rations containing corn with protein supplements of either soybean meal or soybean meal-tankage produced faster rates of gain and better feed conversions than sorghums fed pigs with the same protein supplements.

This experiment was conducted to study the relative values of ground yellow corn and grain sorghums and also to study the value of various protein supplements.

Gains and feed conversion of lots fed corn and soybean-tankage were somewhat poorer during the first period (up to 100 lb. gain) than the corn-soybean meal ration. However, this difference failed to show up at the end of the experiment. The ration containing tankage even produced slightly greater gains over the whole experiment.

When sorghums replaced corn in the ration on a pound for pound basis, average daily gains were reduced 17% and feed conversion reduced 11% as pigs gained from weanlings to 100 lb. Similar results were shown for the last period.

When crude protein levels of the sorghum and corn were equalized, the gains in the sorghum lots were 11 and 16% less for the first period and entire experiment, respectively. Feed conversion was 9 and 14% poorer for sorghum during the first period and entire test, respectively.

The addition of 0.1% lysine, an amino acid, to the sorghum-soybean ration improved gains and feed efficiency slightly over sorghum-soybean ration without lysine.

GESTATION RATIONS WITH VARYING ALFALFA LEVELS—Dr. Wahlstrom reported to swine growers on a study designed to learn whether or not brood sows can be kept successfully in confinement on concrete dry lot during their entire gestation and lactation periods. "No conclusions could be drawn from the test," he said, "but certain observations could be made."

One experiment included 44 gilts divided equally into four lots. Each lot was fed a different level of dyhydrated alfalfa meal—0%, 2.5%, 5% and 10%.

—Of the gilts allotted for breeding, only 63.3% farrowed that were fed 0% and 2.5% alfalfa, while 100 and 90.9% of the gilts farrowed that were fed 5 and 10% of alfalfa, respectively.

—Number of pigs farrowed, live pigs farrowed, and number of pigs weaned were higher in the lot fed 10% alfalfa.

—Individual weaning weights of pigs were higher from sows fed 0 and 2.5% alfalfa. However, average litter weaning weight of sows fed 10% alfalfa was about equal to average litter weight of those fed 0 and 2.5% due to the difference in number of pigs weaned.

DEVELOPMENTS IN SWINE ARTIFICIAL INSEMINATION—A practical solution to the problems of artificial insemination in swine may be within reach now.

Dr. J. F. Wagner of the South Dakota State College entomology-zoology department reported that research work is now in progress at several institutions which will enable farmers to bring all or part of their swine breeding herd into heat within a one or two-day period.

"Experimentally," he explained, "this is being accomplished simply by feeding a ration containing a hormone for a short period to the breeding sows or gilts. Approximately 90% of the females then come into heat within four to six days after removal of the hormonal feed."

Advantages of this, Dr. Wagner said, would be a more efficient insemination procedure and a more uniform crop of pigs.

Artificial insemination of swine has not been practical in the past, Dr. Wagner said, because the boar sperm can only be stored for a few hours. In contrast, sperm from bulls for insemination of cattle can be stored frozen. Attempts at freezing boar semen have been largely unsuccessful, Dr. Wagner said.

The researcher said that the use of this method of breeding swine would introduce an education problem: How to detect estrus (heat period).

"The producer must observe his breeding herd for the behavioral signs indicating heat—much more closely than when a boar is present," Dr. Wagner said.

Turning to the future demand of this service, Dr. Wagner said that some purebred hog raisers have suggested that an artificial insemination program will ruin the boar market.

"Only poor breeders will be forced out of the purebred business," he said, "and they will find themselves, if properly prepared, in commercial swine production.

"The commercial producer with only a few sows or gilts will welcome the program since it will eliminate the need for keeping a boar—a significant part of production overhead. The large producer will also find that his breeding program, artificially, can be carried out in shorter time with a more uniform pig crop.

"Although labor and management involved during artificial breeding periods would be greater than normal, overall labor for breeding the entire herd in an efficient artificial insemination program would probably be less than natural breeding," Dr. Wagner said.

Artificial insemination, coupled with the swine testing program, should have a beneficial effect on the swine industry, he said.

FEEDER SPACE—Other research reported at the swine day explained that one feeder space is probably adequate for every six pigs. Feeder space requirements for winter and summer were evaluated due to trends in confinement rearing, automation and other factors.

Selection of backfat thickness of live hogs in six years of study suggests that backfat can be reduced by breeding, according to J. W. McCarty, of the South Dakota animal husbandry staff. "However, variations from season to season have deviated from a consistent reduction in backfat," he added.

Visitors to swine day also observed a meat cutting and carcass measurement demonstration by R. D. Schubloom and participated in a weight and backfat contest.

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☐ Duplex Mixers ☐ Other equipment (Please Specify)
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Company
City Zone State

Convention Calendar

Nov. 14-15 — Washington Animal Industry Conference; Skagit Valley College, Mount Vernon, Wash.; John G. Wilson, mgr., Washington State Feed Assn., 814 Second Ave. Bldg., Seattle 4.

Nov. 15—All-Iowa Sheep Day; Memorial Union, Iowa State University, Ames; T. W. Wickersham, Ext. Animal Husbandman, Curtiss Hall.

Nov. 15-16—North Carolina Egg Industry Conference; North Carolina State College, Raleigh; College Extension Division, Box 5125, State College Station, Raleigh.

Nov. 16—Poultry Industry Day; Blake Hall, College of Agriculture, Rutgers University, New Brunswick, N.J.; chm., Dr. R. L. Squibb, Poultry Science Dept.

Nov. 16-17—Missouri Poultry Improvement Assn.; Hotel Continental, Kansas City; sec., E. M. Funk, Columbia, Mo.

Nov. 16-18 — Florida Nutrition Conference; University of Florida, Gainesville; chm., Dr. J. P. Feaster, Animal Husbandry and Nutrition Dept.

Nov. 17-18 — Liquid Feed Assn.; Aladdin Hotel, Kansas City; Jack von Mettenheim, Princeton, Ill.

Nov. 20-22—Western Grain & Feed Assn. of Iowa; Fort Des Moines Hotel, Des Moines, Iowa; sec., Bob Skinner, 401 Shops Bldg., Des Moines 9.

Nov. 25-26 — American Society of Animal Production; Hotel Sherman, Chicago, Ill.; sec., Clair E. Terrill, Animal Husbandry Research Division, Agricultural Research Center, Beltsville, Md.

Nov. 27-28—Tennessee Feed Manufacturers Assn.; Noel Hotel, Nashville; sec., Charles H. Warfield, American Trust Bldg., Nashville.

Nov. 29-Dec. 1—Business Management Conference; Kansas State University; sponsored by the Kansas Grain & Feed Dealers Assn.; sec., Orris E. Case, 609 Wiley Bldg., Hutchinson, Kansas.

Dec. 1-2 — North Carolina Animal Nutrition Conference; North Carolina State College, Raleigh; chm., Dr. J. W. Kelly, Poultry Science Dept.; co-sponsored by North Carolina Feed Manufacturers Assn., sec., McNair Evans, Box 44, Mocksville.

Dec. 2-3—Arkansas Turkey Federation Convention and Show; Hot Springs, Ark.; exec. director, John Haid, Box 1446, Little Rock.

Dec. 2-3—Western Quickie Convention; Disneyland Hotel, Anaheim, Cal.; Don M. Turnbull, sec., American Poultry & Hatchery Federation, 521 E. 63rd St., Kansas City 10, Mo.

Dec. 6-7—Cornell Poultry Servicemen's Clinic; Cornell University, Ithaca, N.Y.

Dec. 6-7 — North Dakota Turkey and Egg Convention; Fargo Civic

New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear separately from ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

1961

Feb. 1-2—New Hampshire Poultry Health Conference; Memorial Union Bldg., Durham; sponsored by Department of Poultry Science, University of New Hampshire; Prof. W. C. Skoglund, Poultry Science Dept.

April 13-15—Pacific Dairy & Poultry Assn. Exposition and Convention; Riviera Hotel, Las Vegas, Nev.; asst. sec., Lloyd J. Powers, 1304 7th St., Los Angeles 21, Cal.

May 14-15—Missouri Grain & Feed Assn.; Hotel Coronado, St. Louis, Mo.; sec., D. A. Meinershagen, Higginsville, Mo.

Oct. 4-6—Texas Nutrition Conference; Texas A&M College, College Station; chm., Dr. J. R. Couch, Poultry Science Dept.

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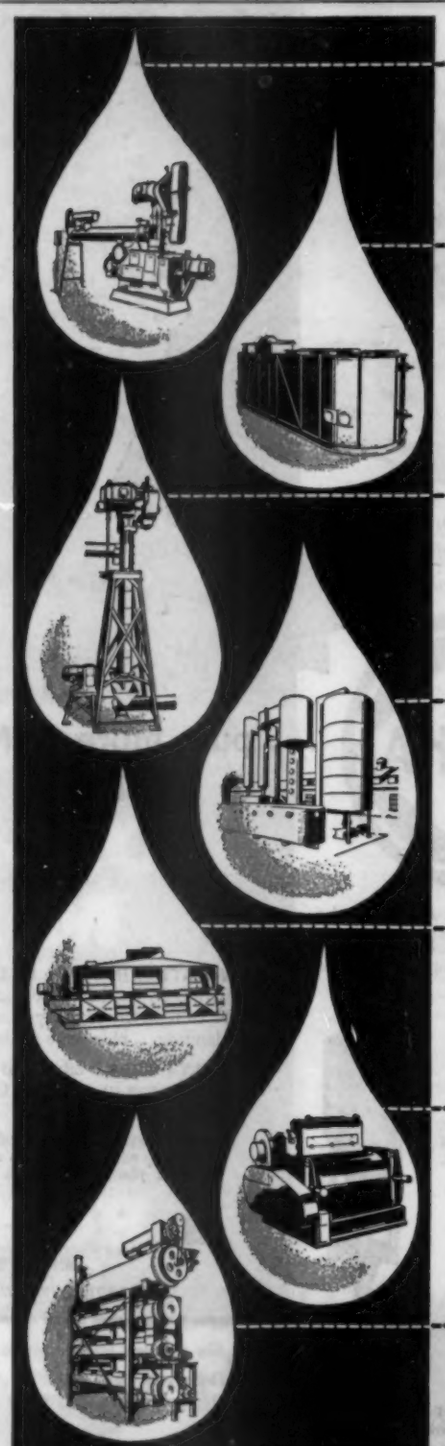

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NOVEMBER

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Center Auditorium, Fargo, N.D.; sec., Irving J. Mork, Fargo.

Dec. 7 — Upper Peninsula Feed Dealers Assn.; State Office Bldg., Escanaba, Michigan; sec., J. O. MacInnis, Box 342, Sault Ste. Marie.

Dec. 7-8—Midwestern Quickie Convention; Conrad Hilton Hotel, Chicago; Don M. Turnbull, sec., American Poultry & Hatchery Federation, 521 E. 63rd St., Kansas City 10, Mo.

Dec. 8 — Arizona Grain and Seed Assn.; Westward Ho Hotel, Phoenix; sec., Willis F. Nielson, Box 787, Mesa, Ariz.

Dec. 8-9—Eastern Quickie Convention; Ben Franklin Hotel, Philadelphia; Don M. Turnbull, sec., American Poultry & Hatchery Federation, 521 E. 63rd St., Kansas City 10, Mo.

Dec. 12-13 — Midwest Veterinary Nutrition Conference; Continental Hotel, Kansas City; Lloyd Larson, Midwest Feed Manufacturers Assn., 20 W. 9th St. Bldg., Kansas City 5, Mo.

Dec. 13-15 — Minnesota Poultry Hatchery Assn.; Hotel Radisson, Minneapolis, Minn.; sec., L. L. Baumgartner, Litchfield, Minn.

Dec. 15-16 — Business Clinic for Elevator Managers; Kellogg Center, Michigan State University, East Lansing; Carleton C. Dennis, Department of Agricultural Economics.

1961

Jan. 4-6—National Turkey Federation; Conrad Hilton Hotel, Chicago, Ill.; sec., M. C. Small, P.O. Box 69, Mt. Morris, Ill.

Jan. 12-13—Michigan Feed & Grain Dealers Assn.; Michigan State University, Kellogg Center; sec., Nevel Pearson, P.O. Box 472, East Lansing.

Jan. 13-14—Florida State Poultry Producers Assn.; Cherry Plaza Hotel, Orlando, Fla.

Jan. 15-17—Indiana Grain & Feed Dealers Assn.; Claypool Hotel, Indianapolis; sec., Fred K. Sale, 600 Board of Trade Bldg., Indianapolis 4.

Jan. 16-17—Northwest Retail Feed Assn.; Hotel Pick-Nicollet, Minneapolis; sec., W. D. Flemming, 112 Grain Exchange Bldg., Minneapolis, Minn.

Jan. 23-25—Farmers Grain Dealers Assn.; Civic Memorial Auditorium, Fargo, N.D.; sec., Lloyd C. Hanson, 513 Black Bldg., Fargo.

Jan. 23-25 — Southeastern Poultry & Egg Assn.; Municipal Auditorium, Atlanta, Ga.; sec., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.; for reservations: Atlanta Convention Bureau, Rhodes-Haverty Bldg., Atlanta.

Jan. 27 — Missouri Turkey Day; University of Missouri, Columbia; E. M. Funk, sec., Missouri Poultry Improvement Assn., Poultry Bldg., Box 568, Columbia.

Jan. 31-Feb. 1—Illinois Agricultural Industries Forum; University of Illinois, Urbana; Department of Agricultural Economics, 305 Mumford Hall.

Jan. 31-Feb. 1 — Hoosier Turkey Trot; Purdue Memorial Union, Purdue University, Lafayette, Ind.; John N. Howell, Turkey Department, Indiana State Poultry Assn., Poultry Bldg., Purdue University.

Feb. 1-2—Illinois Nutrition Conference; University of Illinois, Urbana; chm., E. E. Hatfield, Department of Animal Science.

Feb. 2—Beef Cattle Study Day; University of Arkansas Agricultural Experiment Station, Fayetteville.

Feb. 2-3—Oregon Animal Nutrition Conference; Withycomb Hall, Oregon State College, Corvallis.

Feb. 3-4—Minnesota Turkey Growers Assn.; Leamington Hotel, Minneapolis; sec., Roy Munson, 2200 University Ave., St. Paul, Minn.

Feb. 6-7—Montana Nutrition Conference; Montana State College, Bozeman; chm., Dr. O. O. Thomas, Animal Industry and Range Management Dept.

Feb. 7-10 — American Dehydrators Assn.; Jung Hotel, New Orleans, La.; executive vice president, Joseph Chrisman, 430 Board of Trade Bldg., Kansas City 5, Mo.

Feb. 8-9—Pacific Northwest Feed Mill Production School; Hotel Leopold, Bellingham, Wash.; sponsored by Washington State Feed Assn.; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

Feb. 10 — Washington State Feed Assn., annual convention; Hotel Leopold, Bellingham, Wash.; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

Feb. 10-11—Poultry Fact Finding Conference; sponsored by Institute of American Poultry Industries; pres., Harold M. Williams, 59 E. Madison, Chicago 2.

Feb. 19-21—Midwest Feed Manufacturers Assn.; Hotel Muehlebach, Kansas City, Mo.; executive vice president, Lloyd S. Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Feb. 19-21 — Ohio Grain & Feed Dealers Assn.; Neil House, Columbus; sec., George G. Greenleaf, 5625 N. High St., P.O. Box 121, Worthington.

March 8 — Distillers Feed Conference; Sheraton Gibson Hotel, Cincinnati, Ohio; L. E. Carpenter, Executive Director, Distillers Feed Research Council, 1232 Enquirer Bldg., Cincinnati 2.

March 8-9 — Nebraska Grain & Feed Dealers Assn.; Sheraton-Fontenelle Hotel, Omaha; sec., Howard W. Elm, Trust Bldg., Lincoln, Neb.

March 9-10 — Oklahoma Nutrition Conference; Oklahoma State University, Stillwater; Dr. Rollin Thayer, Poultry Science Dept.

March 16-17—Oregon Feed & Seed Dealers Assn.; Sheraton-Portland Hotel, Portland; mgr., Russ Hays, 702 Lewis Bldg., Portland 4.

March 16-17 — Maryland Nutrition Conference; Shoreham Hotel, Washington, D.C.; chm., Dr. R. D. Creek, Poultry Husbandry Dept., University of Maryland, College Park.

March 20-24—Grain & Feed Dealers National Assn.; Washington D.C.; sec., Herbert L. Sharp, 400 Folger Bldg., Washington 5, D.C.

April 3-4 — National Institute of Animal Agriculture; Purdue University, Lafayette, Ind.; sec., Karl D. Butler, P.O. Box 521, First National Bank Bldg., Ithaca, N.Y.

April 9-13 — American Association of Cereal Chemists; Baker Hotel, Dallas, Texas; 1955 University Ave., St. Paul 4, Minn.

April 10-12—Poultry & Egg National Board; Sheraton Towers Hotel, Chicago, Ill.; mgr., Lloyd H. Geil, 8 S. Michigan Ave., Chicago 3.

April 20-22—California Hay, Grain & Feed Dealers Assn.; Jack Tar Hotel, San Francisco; sec., Leo L. Johnson, Blue Anchor Bldg., 1400 10th St., Sacramento 14.

April 27-29—Kansas Grain & Feed Dealers Assn.; Broadview Hotel, Wichita; sec., Orris E. Case, 609 Wiley Bldg., Hutchinson.

May 7-10—American Feed Manufacturers Assn. Convention and National Feed Show; Conrad Hilton Hotel, Chicago, Ill.; sec., W. T. Diamond, 53 West Jackson Blvd., Chicago 4.

June 8-11 — Canadian Feed Manufacturers Assn.; National Convention; Manoir Richelieu, Murray Bay, Quebec; national secretary, W. N. Hendrick, 2901 Bloor St. W., Toronto 18, Ont.; for registrations, T. G. Sevigny, Room 100, 355 McGill St., Montreal 1, Quebec.

July 18-20—American Poultry Congress & Exposition; Municipal Auditorium, Minneapolis; Don M. Turnbull, sec., American Poultry & Hatchery Federation, 521 E. 63rd St., Kansas city 10, Mo.

July 24-28 — Southeastern Egg Quality and Grading School; Auburn University, Auburn, Ala.; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

Aug. 24-26 — North Carolina Feed Manufacturers Assn.; Virginia Beach, N.C.; sec., McNair Evans, Box 44, Mocksville.

Sept. 19-21 — Marketing Seminar for Feed Manufacturers; Morrison Hotel, Chicago; Sales Executives Council, American Feed Manufacturers Assn., W. E. Glennon, president, 53 W. Jackson Blvd., Chicago.

Sept. 27-29—Pennsylvania Millers & Feed Dealers Assn.; Hotel Hershey, Hershey, Pa.; sec., D. W. Parke, P.O. Box 329, Ephrata, Pa.

Oct. 23-25 — Centennial Nutrition Conference; Hotel Muehlebach, Kansas City 5, Mo.; sponsored by Midwest Feed Manufacturers Assn. and Land-Grant Colleges in Midwest's area; executive vice president, Lloyd S. Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

1962

Aug. 12-18—12th World's Poultry Congress; Show Grounds of the New South Wales Royal Agricultural Society, Sydney, Australia; Dr. Cliff D. Carpenter, chairman, U.S. Participation Committee, 1207 Emerald Bay, Laguna Beach, Cal.; Dr. A. William Jasper, secretary, c/o AFBF, 2300 Merchandise Mart, Chicago 54, Ill.

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NEW, EXPANDED LINE! New design, new magnetic efficiency permit increased operating range and effectiveness with 2 different magnetic actions. Peak protection for all operations—from rugged crusher protection through delicate product purification operations.

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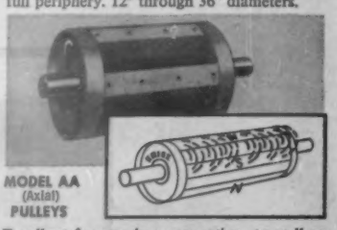

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Prevent product contamination, machinery damage, fires, explosions, downtime. 2 designs, 4 magnetic strengths, 8 diameters, 14 belt widths. No operating or maintenance costs. For all materials, wet or dry, on belts of non magnetic material. Fast, simple installation.

**Erium —an exclusive, high quality permanent magnetic power source specifically designed and energized by Eriez.*

New fact-filled 6-page bulletin has installation photos, selector guide, etc. Write today! Eriez Mfg. Co., 118-LA Magnet Drive, Erie, Pa.

ERIEZ

Broiler Council Hears Report on Retail Store Survey, '61 Promotion

GULFPORT, MISS. — "Chicken is the number two item in the meat department—it has the volume but needs the profit," William C. Nigut, National Broiler Council merchandising counsel, told the NBC board of directors at its quarterly meeting in Edgewater Park, Miss.

Mr. Nigut, who was retained by NBC in September, made a brief preliminary report of his findings from a nation-wide survey involving 32 retail food companies which will be completed and made available to the council later this month, along with specific recommendations.

Upon recommendation by the merchandising committee reported by Harold Snyder, chairman, the board voted to increase its contribution to the International Trade Development Committee from $5,000 to $7,500 for 1961, and to request official NBC representation on the committee. The board also voted to support "Corn Crisped Chicken" in 1961 with a full consumer education campaign augmented by the use of color mats for newspaper editorial food pages.

Frank Frazier, NBC executive vice president, reported to the board that the council's new "Weight Watcher" posters and channel marker display pieces have already been ordered in quantities sufficient for 3,000 stores, with a mailing of a brochure on the pieces scheduled to go out to 2,500 buyers and merchandisers immediately.

The effectiveness of the material has been indicated by tests conducted in the Richmond area by NBC in cooperation with the Virginia Department of Agriculture and the Virginia Poultry Federation. In chain A, three stores displayed the material and two did not. All stores were operating with a 27¢ price special. Stores with the material increased sales 214% and the stores without 188%, showing a net increase of 26% for stores displaying the point of sale pieces.

In chain B, with two stores operating with no price special, but with a competitor featuring chicken, one store not displaying the material showed a 33% drop in volume, while a second store using the material showed no change in volume.

NBC president, Joe Frank Sanderson, Laurel, Miss., announced that the next meeting of the executive committee will be in Memphis on Dec. 8, and will consider Mr. Nigut's report at that time.

CALIFORNIA CONFERENCE—Two of the persons present for the California Animal Industry Conference in Fresno are pictured here. Florence Lewis (left), Madera (Cal.) Milling Co., is shown with Sam Golden, The Amburgo Co., Philadelphia, who claimed the distinction of being the conference guest from the farthest point away.

Kansas Cooperative Plans New Mill

MEADE, KANSAS — Plans have been made by the Cooperative Elevator & Supply Co. here for construction of a new feed mill and office building.

Contract for engineering of the new plant has been awarded to the Continental Engineering Co., Hutchinson.

The new mill will have a capacity of 50 tons per 8-hour day. The plant will be a semi-automatic pushbutton type mill, with facilities for pelleting feeds and producing molasses feeds. Bulk storage will be included in the new plant, with provision for truck scales.

Construction plans include a complete seed cleaning and treating plant and new general office building.

The first step will be the construction of new office facilities, as the firm's present office space is needed for the new mill construction. The mill probably will be completed by next July.

Borden Supplement Distributor Named

NEW YORK — The National Food Co., Fond du Lac, Wis., has been named as the Borden Special Products Co.'s, exclusive distributor of feed supplements in Wisconsin, it was announced by Richard G. Sanders, sales and marketing director of Borden's Feed Supplements Division.

In a joint announcement by Mr. Sanders and Mylan E. Ross, vice president and general manager of the Fond du Lac company, it was pointed out that the two firms have worked together for many years in developing special feed supplements for the mink industry. National's distributing facilities will enable that firm to expand its line of mink, calf, trout and dog foods to include Borden's supplements for poultry, turkey, hog and other specialty feeds, the announcement said.

FOSFORO *high-quality, economical mixing phosphorus*

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Without exception every large feed manufacturer recommends oyster shell in its feeding management bulletins. So, oyster shell is definitely necessary, and Shellbuilder is your customers' best buy. 100% guaranteed quality. Give Shellbuilder a try.

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a complete line of packaged premixes by
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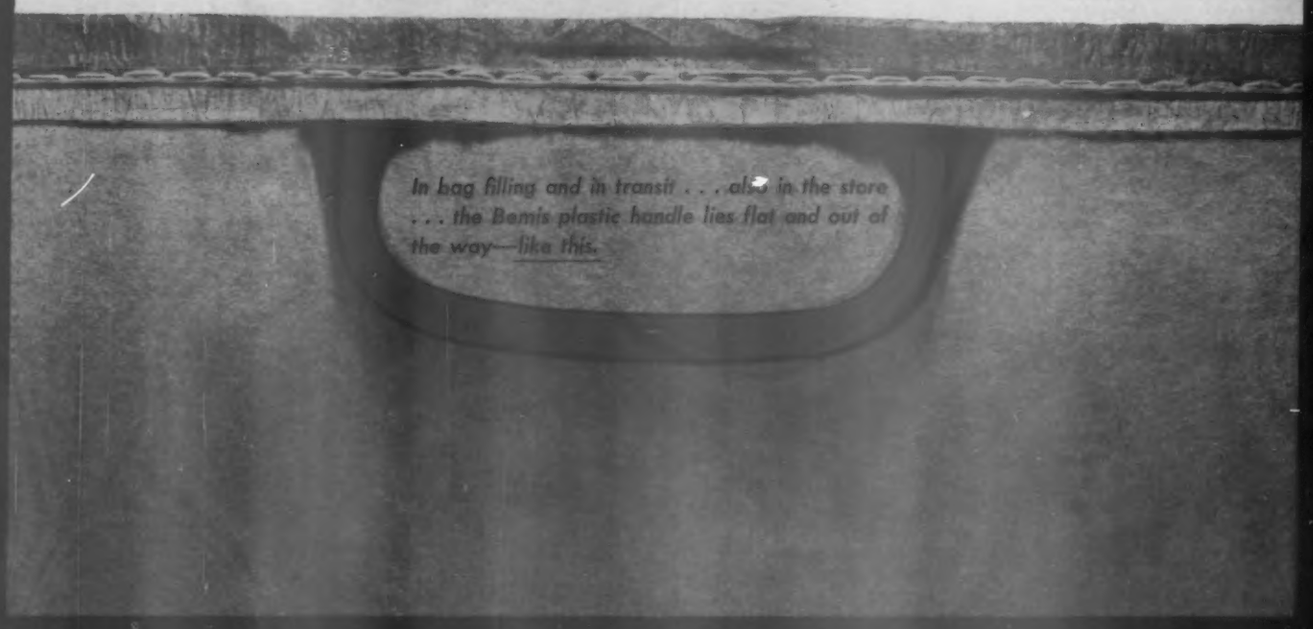

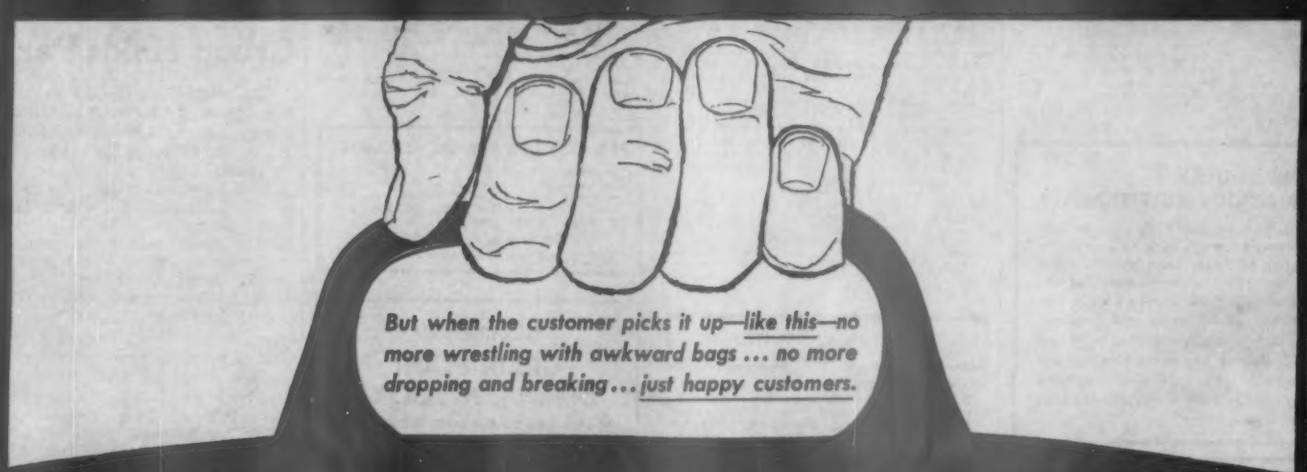
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Bemis Handle Bag

WITH MOLDED PLASTIC HANDLE!

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Bemis Handle Bags are ideal sales-building packages for dog food, rock salt, fertilizer . . . actually, just about anything you would package in bags up to 25- or 30-lb. capacity.

Ask your Bemis Man for the complete Handle Bag story.

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FEED MIXER, 1-TON CAPACITY, GUARanteed first-class throughout, 5 H.P. motor drive. Address Ad No. 3479, Feedstuffs, Minneapolis 40, Minn.

WHIRLAWAY AIRBLAST CAR LOADERS, cast iron pulleys, new and used feed and elevator equipment. Hagan Mill Machinery, P.O. Box 574, Jefferson City, Mo.

FOR SALE—80 FT. ALL STEEL ELEvator leg, with 6 ply 22" belt. Buckets 20"x8", legging 24"x12". 5,000 bushel capacity 200 ft. Standard Conveyor Co. drag belt 20" wide, in sections, complete with frame. J. E. Hagan Mill Machinery, P.O. Box 574, Jefferson City, Mo.

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FOR SALE — ONE MODEL 40 ANGLO-American pellet mill with 50 H.P. TEFC motor, several dies and extra rollers. Operating daily. Carthage Foundry & Machine Co., Carthage, Mo.

FOR SALE—HEIL DEHYDRATOR 8D8x25 like new with Heil feeder complete. Address Ad No. 6391, Feedstuffs, Minneapolis 40, Minn.

HELP WANTED

SALES CAREER OPPORTUNITY—DUE TO expansion, a well known Midwest feed manufacturer needs men for territory managers. Sales trainee positions also available. This is an excellent opportunity for hardworking sales minded individuals. Address Ad No. 6388, Feedstuffs, Minneapolis 40, Minn.

MAN WITH PORTABLE MILLING OR feed experience for a district manager in the following states: South Dakota, Nebraska, Minnesota, Wisconsin, Illinois, Indiana, Ohio and Pennsylvania, for a long established feed company that is expanding in these areas, with openings for district managers. We will train; position requires sales ability, managerial ability and feed knowledge. Address Ad No. 6384, Feedstuffs, Minneapolis 40, Minn.

UNUSUAL — MANAGEMENT OPPORTUnity open for right man between age of 30 and 40—northern Illinois feed and grain plant. Salary with investment. Address Ad No. 6379, Feedstuffs, Minneapolis 40, Minn.

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Are you stymied? This is an opportunity for you with an aggressive Upper Midwest feed manufacturer as assistant to the director of research. We want a man who is ambitious, 25-30 years old, anxious to obtain responsibility, with an M.S. degree and some nutrition experience. Write in confidence to Box 6375, Feedstuffs, Minneapolis 40, Minn.

MACHINERY FOR SALE

FOR SALE—CHICK EXPRESS, 1953 INternational chassis, R-180, 192" WB, with completely ventilated Blue Bird body, 5 sp. trans., 2 sp. axle, 825x20 tires. Good condition throughout. Frank Haeberle Ford Sales, Mooresville, Ind.

FOR SALE — HEIL DEHYDRATING plant, complete with model SD 824 drum unit, natural gas furnace, hammermill, WJS self feeder, all top shape, reasonably priced. W. A. Caplis, Box 1312, Shreveport, La.

RAILROAD TRACK SCALE—FAIRBANKS, Type "S" 150 ton, 60 ft. type reg. beam with dead rail, 8 years old. Perfect. New guarantee. Peoria Scale Service, 804 East Adams St., Washington, Ill.; Phone 7419.

USED FEED BODIES—20' PAC MASTER bag & bulk, $1,500; 12' Pac Master bag & bulk, $1,600; used less than 6 months. 12' Dorsey bulk, $1,150. We also have 12 used lime and fertilizer spreaders. Brooks Industrial Sales, Inc., Sun Prairie, Wis.

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EXPERIENCED FEED AND GRAIN MERchandiser. Interested Indiana elevator to manage and lease with option. Address Ad No. 6368, Feedstuffs, Minneapolis 40, Minn.

FORMER OWNER OF VERY SUCCESSFUL custom feed mill seeks to return to feed business preferably as manager of similar business. Especially good at promotion and creating customer goodwill and building profitable volume. Write fully describing your facilities, past volume and of course minimum earning possibilities. Address Ad No. 6394, Feedstuffs, Minneapolis 40, Minn.

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RETIREMENT IS NOT FOR ME. WILL trade trailer park fishing resort for grain processing plant. Midwest Virginia. South preferred. El Tonteria, Route 1, Kissimmee, Fla.

FEED MILL COMPLETELY EQUIPPED for custom service and feed manufacturing, including molasses mixer. Also handling line of farm supplies and seed. Located near Indianapolis, Ind. Will sell machinery and stock of merchandise, lease building with option to buy. Can finance portion. Also 14,000 bu. grain storage. Address Ad No. 6382, Feedstuffs, Minneapolis 40, Minn.

WANTED — SOMEONE TO FINANCE feedlot operation of 1,000 to 5,000 cattle. Have land in Southeast. Good climate. Person interested is a graduate veterinarian, early thirties with several years' experience in large animal practice. Address Ad No. 6395, Feedstuffs, Minneapolis 40, Minn.

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WANTED TO BUY — RICHARDSON Scales, bag closing machines and other good mill, feed and elevator equipment. J. E. Hagan Mill Machinery, Jefferson City, Mo.

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FOR SALE—TAKE WORTHLESS WEEDY timothy seed, plus a Perigon Dump Mill and you get the world's purest timothy seed. Low, low operating cost. Makes your timothy handling profitable. Write or phone. G. H. Snyder Manufacturer, Copetown, Ontario, Canada—Phone MI 8-2352.

1959 DAFFIN MOBILE MILL, POWERED by G.M.C. 4-cyl. diesel, air unloading and the works. Like new condition. 20" Iowa portable mill, mounted on 1957 2-ton Chev. truck, powered by G.M.C. diesel. 2-ton vertical mixer and molasses blending equipment. Moore Mfg. Co., Windom, Minn.

FOR SALE — 1957 TRANSPORT SEMI-trailer 35 ft. long, four compartments with a PakMaster bulk unloading system powered by a Wisconsin engine. Reaches 27 ft. in the air. All hydraulic. Dave Miley, Juneau, Wis.; Phone FU 6-4605.

COMPLETE BUTLER BULK FEED HANdling setup. Like new. Four 7.3 ton tanks with augers. 40 ft. elevator with six way consignor and spouting. 6,000 lb. scale with hopper. Substantial discount off wholesale. Holcomb Hastings Hatchery, Hastings, Neb.

PRATER CORN CRACKER, WITH GRADing screen. Used very little. $300. H. A. Davis Co., Phone 650, Shelbyville, Ill.

TWO TON VERTICAL MIXER, NINE months old; Sprout-Waldron pellet machine, complete with crumbler; Richardson scales; oat crimper; molasses blender; horizontal mixer; sewing machine; elevator legs; screw conveyors; grain cleaning equipment and motors. Going out of business. Scranton Flour & Grain Co., 201 Vine St., Scranton 3, Pa.

1958 JAY-BEE MOBILE MILL ON 1958 Chevrolet truck — located central New York. Write P.O. Box 357, Utica, N. Y., and make offer.

DAFFIN MOBILE MILL MOUNTED ON 1953 Ford. Cash or terms. Mill located at Cole, Iowa. Clyde Hatfield, Box 96, Clewiston, Fla.; Phone Yukon 2-5101.

FOR SALE—ENCLOSED MOTORS; RICHardson scale; truck scales; hammermills; oat crimpers; horizontal and upright feed mixers; sewing machines; elevator legs; screw conveyors; molasses mixers and pellet mills. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

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USDA to Study Disease Spread by Animal By-Products

WASHINGTON — A special task force has been named by the U.S. Department of Agriculture to study the spread of Salmonella and other disease-causing organisms among poultry and livestock by the interstate movement of animal byproducts.

Following the investigation, which will also study resultant economic losses, the group will recommend any additional safeguards needed to prevent spread of poultry and livestock diseases across state and territorial lines.

Notice of the proposed study appears in the Nov. 1 issue of the Federal Register. The study will be under the direction of Dr. Francis J. Mulhern, associate director of the animal disease eradication division in the Agricultural Research Service.

Dr. Mulhern will lead the task force in a review of all information available within USDA and other government agencies on the spread of animal disease by means of animal byproducts such as meat scraps, tankage, hides, bones, dried blood and other materials used in feeds and fertilizers.

The task force will contact groups and individuals within the livestock and poultry industries, veterinarians, state animal disease control agencies and colleges and universities. Others having information pertinent to this study are invited to present it.

The public is asked to submit any pertinent information and views, in writing, within 60 days after Nov. 1, to the Director, Animal Disease Eradication Division, Agricultural Research Service, U.S. Department of Agriculture, Washington 25, D.C.

Delmarva Poultry Group Holds Parley

SALISBURY, MD.—At the annual meeting of the Delmarva Poultry Industry, Inc., held here recently, James E. Davis, Seaford, Del., was elected president.

Mr. Davis manages the Seaford plant of General Mills, Inc. He has been associated with this tri-state poultry association for several years and was chairman of the 1960 Delmarva Fund Drive. In that drive, some 2,400 businesses and individuals contributed over $121,000 toward the promotion of Delmarvalous Chickens.

Vice presidents elected were: A. E. Bailey, Rehoboth, Del.; Samuel Quillen, Salisbury, Md., and George Brinsfield, Princess Anne, Md. Richard L. Clem, agricultural representative of the Easton National Bank, Easton, Md., was elected secretary. The group reelected Roland Hastings, Laurel, Del., as treasurer.

It was pointed out by the newly elected president that for about two years now DPI has been undergoing a transition period, placing more emphasis on merchandising chickens from the Delmarva Peninsula and dealing more directly with members of the trade and other key food people in Delmarva's principal market areas. Other new avenues of work have included new product development, more research directly connected with Delmarva's interest and the holding of seminars and workshops to aid in the training and development of poultry industry leaders.

JOINS AD AGENCY

MILWAUKEE—Delmar E. Gurley, a specialist in agricultural marketing and publishing for the past 15 years, has joined The Brady Co., Milwaukee and Appleton advertising agency, to service agricultural and chemical accounts, the firm has announced.

Putting Research To Work

BY SPENCER H. MORRISON, PH.D., D. V. M.

Amino Acid Requirements for Maintenance in the Adult Rooster. IV. The Requirements for Methionine, Cystine, Phenylalanine, Tyrosine and Tryptophan; the Adequacy of the Determined Requirements.

● C. A. Leveille, R. Shapiro and Hans Fisher, Journal of Nutrition, Vol. 72, No. 1, pp. 8-15, September, 1960.

And

Further Aspects of Amino Acid Imbalance, with Special Reference to the High Arginine Requirements of Chicks Fed Casein Diets.

● H. Fisher, R. Shapiro and P. Griminger, Rutgers University, Journal of Nutrition, Vol. 72, No. 1, pp. 16-22, September, 1960.

ABSTRACTS AND COMMENTS

For a number of years the group of workers in poultry science at Rutgers under the guidance of Hans Fisher have been investigating the basic fundamentals of amino acid requirements in poultry and have reported on requirements for the laying hen, etc. More recently, the group has been concerning itself with the differences in amino acid requirements for laying hens and mature roosters. Nitrogen balance experiments using various types of diets, synthetic, semi-synthetic and modified practical, have been used in the various aspects of these studies and apparent differences have been observed between diets in some instances with respect to amino acid requirements. An attempt is made during one of the above papers to explain at least part of these observed differences.

Imbalances of certain amino acids have previously been observed by this group to be as deleterious to chick growth or production as diets which may contain actual inadequacies. They were among the first in this country to fully realize the implications of excesses of certain amino acids on performance, especially if the diet was marginal or questionable in some other equally vital amino acid. This important point has been successfully applied in the broiler formulation field by certain practical nutritionists. By setting maximum as well as minimum requirements for amino acids, using computer formulation aids, and having a good idea of the amino acid composition of the particular feed ingredients upon which the formula is based, practical results have been vastly improved when compared with more conventional means of feed formulation. We still need much more information on this subject as the methods currently being used are certainly crude estimates at the very best, and it is certainly encouraging to see that the New Jersey group is continuing its very fundamental work.

For example, in the current work these workers found out that the addition of an amino acid mixture lacking in several essential amino acids to a balanced low-protein diet induced an imbalance which was gradually overcome at higher protein levels even when the amount of the amino acid mixture added remained constant at a percentage of protein. Also, using peanut protein it was shown that there was a differential response at two different protein levels (12 and 24% of diet from peanut protein) when the amino acids methionine and lysine were added to the diet. The response was explained by the fact that a relatively greater methionine requirement existed at maintenance on the low protein level versus a higher lysine to methionine ratio required for rapid growth at high protein levels, using this particular diet. Furthermore, it was demonstrated that the high apparent arginine requirement for chicks fed casein-containing diets was explained, at least partially, by the relative excess of amino acids in casein protein when the latter is calculated to contain 16% nitrogen.

These workers also point out the implications of their experimental findings and suggest that in the future it will be much more necessary for research workers using so-called "isonitrogenous" diets to pay much stricter attention to the actual amino acid composition of the test diets especially since it is common practice to compare diets on the basis of total nitrogen content rather than on a total amino acid content. It becomes very obvious that observed differences in the requirement of a single amino acid studied with various protein sources might well be related to differences in amino acid content of isonitrogenous rations. Very interestingly, they also comment that "from the standpoint of amino acid balance, casein appears to be a poor choice as a standard for protein evaluations as long as so little attention is paid to amino acid content and the emphasis remains on nitrogen equality between rations."

In the other paper reported by this group, the maintenance requirements for tryptophan, phenylalanine, methionine, cystin and tyrosine were computed from nitrogen balance studies in adult roosters not depleted of protein. Although the individual amino acid requirements were computed from the nitrogen balance data for relatively small numbers of birds over a short feeding period, the adequacy of a mixture comprised of all the determined requirement levels was confirmed in a total of 32 birds fed for varying periods, some exceeding four weeks. A high degree of correlation between the computed amino acid requirements and the amino acid composition of feather protein was also noted. This implies that the amino acid needs for feather synthesis represent a major portion of the minimum maintenance level, whereas requirements for other purposes and functions are satisfied to a greater extent at the maintenance requirement level. Both of these two levels are given in Table 6 of the article and interested readers are directly referred to it for further information.

Feed Man Raising Rare Breed of Hog

MONITOR, ORE.—Marcus Vetter, owner of the Monitor (Ore.) Feed Mill, just recently brought back four Large Black hogs from Canada and plans to raise them.

"The Large Black hogs are the only ones in the U.S.," Mr. Vetter said, "and the man I bought them from has the only ones in Canada. They're strictly a meat hog and used to be unpopular because they had no lard. But the hog industry is changing and I'm going to start raising them."

The animals originally came from England and are reportedly very difficult to export. The Canadian owner had to move them into Scotland before he could have them shipped to Canada, it was stated.

Rebuilding Mill

WATERTOWN, WIS. — Rebuilding of the Old Elm Mills here has started with the mill building and re-roofing of the storage area to cost an estimated $140,000. The mill was destroyed by fire with an estimated loss of $250,000.

Ed Pas, mill manager, said the mill building will be 36 ft. square and 105 ft. high, and will contain 23 storage bins with a total capacity of 700 tons. Estimated completion date for the construction is Feb. 1.

Twin City Nutrition Seminar Set Nov. 15

ST. PAUL—A Twin City Nutrition Seminar is scheduled for Nov. 15, according to Dr. Ralph Kitchell, assistant dean of the College of Veterinary Medicine, who is chairman for this meeting.

The meeting will be held at 7:30 p.m. in Peters Hall on the St. Paul campus of the University of Minnesota.

Speakers and subjects for the seminar include: Dr. R. A. Merrill, College of Veterinary Medicine, University of Minnesota, "Programs for Control of Livestock Diseases" and Dr. Reuel Fenstermacher, College of Veterinary Medicine, University of Minnesota, "Role of the Diagnostic Laboratory."

Fire Destroys Mill

BOSTON, GA. — Fire, believed to have been caused by a short circuit, destroyed the Taylor Milling Co. here Nov. 5 with the loss estimated at $75,000 by Henry G. Taylor, operator of the mill.

Damage, partially covered by insurance, included a warehouse full of corn.

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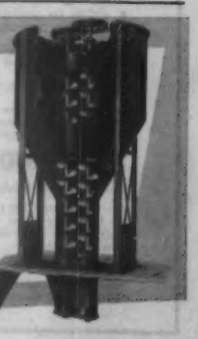

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TABLE 1. Hens and Pullets of Laying Age, Pullets Not of Laying Age, Potential Layers and Eggs Laid per 100 Layers on Farms Nov. 1

Year	North Atlantic	E. North Central	W. North Central	South Atlantic	South Central	Western	United States
Hens and Pullets of Laying Age on Farms (thousands)							
1949-58 (average)	58,418	66,065	90,778	32,659	51,543	36,847	336,310
1959	52,000	58,754	80,518	37,023	46,493	39,760	314,748
1960	46,164	54,894	72,610	36,491	43,529	42,877	296,565
Pullets Not of Laying Age on Farms (thousands)							
1949-58 (average)	10,357	11,420	21,978	7,596	12,272	7,056	70,678
1959	7,238	7,408	12,988	8,231	7,290	6,371	49,526
1960	7,725	7,685	14,496	8,262	8,980	7,755	54,903
Potential Layers on Farms* (thousands)							
1949-58 (average)	68,776	77,484	112,756	40,255	63,814	43,903	406,988
1959	59,238	66,162	93,506	45,254	53,783	46,331	364,274
1960	53,889	62,579	87,106	44,753	52,509	50,632	351,468
Eggs Laid Per 100 Layers on Farms (number)							
1949-58 (average)	50.3	45.0	41.1	40.5	35.2	51.0	43.6
1959	53.6	51.2	46.8	49.4	42.8	58.4	49.9
1960	53.4	51.4	47.1	49.7	43.1	58.3	50.2

*Hens and pullets of laying age plus pullets not of laying age.

LAYERS

(Continued from page 1)

above last year in all regions, mainly because of the late hatch.

During October, farm flocks laid 4,954 million eggs, 5% less than a year earlier. All regions of the country except the West showed decreases in production. In the West production was up 7%. The highest decrease was 12% in the north Atlantic states.

Egg production per layer during October was 15.7 eggs compared with 15.6 a year earlier.

The nation's laying flock averaged 923,015,000 birds during October, 6% below last year and the lowest number for this month since 1940.

Prices received by producers averaged 43.4¢ per dozen in mid-October, up 4.8¢ from a month earlier and 11.6¢ over a year earlier. At the end of the month, egg prices averaged 15-20¢ a dozen higher than a year earlier, USDA figures show.

CITRUS PULP

(Continued from page 1)

asked for fruit, many processors are only inclined to process against orders.

As of Oct. 31, there were only 6,616 tons of citrus pulp in store in Florida, and this was scattered among mills which had already been committed through prior bookings and had no tonnage for sale.

As was reported last week from Florida (Feedstuffs, Nov. 5), dairymen and beef cattle feeders are pressuring pulp dealers for new supplies. But their demands aren't being met because many warehouses are empty.

A depleted inventory situation which forced pulp salesmen to allocate their dwindling stocks among customers as far back as last summer was reported to be intensified by the later citrus processing plant openings.

"I haven't a bag to my name," said James Coats, sales manager of the by-products division of Adams Packing Assn., Inc., Auburndale, Fla.

Forest Johnson, sales manager, Kuder Citrus Pulp Co., Lake Alfred, Fla., asserted, "I've come to the conclusion that I'd rather have too much pulp than not enough. I am having a hard time convincing long-standing customers that I am not holding out on them."

The shortage of pulp has been severe for the longest time in the memory of some tradesmen.

Opens Brokerage

BALTIMORE, MD. — James K. Daugherty, who has been associated with Bradley & Baker running the firm's Baltimore division for the last 25 years, has now gone into the brokerage business for himself. The new business is called Daugherty Brokerage and is located at 129 Gypsy Lane West, Towson, Md.

MILL OPERATOR DIES

STATESVILLE, N.C. — James Robert Cashion, owner and operator of the Star Milling Co., died at his home here. He was 65.

Poultry Condemnation Rates Told by USDA

WASHINGTON—Poultry condemnation rates for the month of September have been announced by the U.S. Department of Agriculture. The rate of post-mortem condemnations for broilers or young chickens during the month was 2.02%.

Percentages for other poultry were: Mature chickens, 2.69%; young turkeys, 1.19%; old turkeys, 1.27%; fryer-roaster turkeys, 1.20%, and ducks, 2.28%. Total weight of post-mortem condemned birds was 12,337,000 lb. (NYD weight).

Ante-mortem condemnations totaled 1,560,000 lb. (live weight) in all classes. Condemnation percentages were: Young chickens, 0.23%; mature chickens, 0.34%; young turkeys, 0.12%; old turkeys, 0.09%; fryer-roaster turkeys, 0.19%, and ducks, 0.04%.

During September 166,766,000 head (chickens, turkeys and ducks combined) were inspected under the Poultry Products Inspection Act as compared with 156,808,000 a year earlier.

The numbers and live weight pounds of poultry inspected by classes were: Young chickens, 140,882,000 head, 474,291,000 lb.; mature chickens, 13,895,000 head, 65,776,000 lb.; young turkeys, 9,412,000 head, 174,741,000 lb.; old turkeys, 72,000 head, 1,140,000 lb.; fryer-roaster turkeys, 1,378,000 head, 12,124,000 lb., and ducks, 1,127,000 head, 6,840,000 lb.

Research Mill Given To Kansas State

MANHATTAN, KANSAS — Donation by the California Pellet Mill Co. of a $5,000 research pellet mill to the department of flour and feed milling industries at Kansas State University has been announced by Dr. John A. Shellenberger, department head.

The mill is a special stationary ring-die machine modified to permit the measurement of pressures and temperatures inside the die. Recent investigations by the department staff has shown that variations of pressures during pelleting have a marked effect on the chemical nature of the starch in feed ingredients.

It is also known that the temperatures which exist within the pellet, while in the die, are near the critical temperature at which some vitamins become unstable, Dr. Shellenberger said. This pellet machine, he said, will be the first known machine which will provide simultaneous measurement of die pressures and temperatures under actual operating conditions, and should provide important basic data regarding the physical, chemical, and nutritional effects of pelleting under carefully controlled laboratory conditions.

This addition to the facilities of the department of milling industries comes "at an opportune time when the new building, including mill and laboratory facilities, is being completed," Dr. Shellenberger noted.

This research will be under the direction of Dr. Harry B. Pfost.

BROILERS

(Continued from page 8)

vides impetus for expanded output, USDA says.

That is the principal reason for expecting a 1961 volume over the 1.8 billion broilers foreseen for this year.

Favorable broiler prices to producers in the first 10 months of the year have put many producers in a financial position to expand their operations if they so desire. This is a contrast to the situation a year ago, when both internal financing and credit from outside were highly restricted. Recent profits have changed this picture, however.

Hatchings in the last two months of 1959, for early 1960 production, trailed 1958 by 4%, while latest available 1960 setting figures indicate a 13% higher figure for following year production.

In recent months, hatchings of breeder stock have also turned upward, suggesting greater availability of hatching eggs in 1961 will also stimulate production.

Price Situation

Turning to the price situation, USDA says that the demand for broilers in 1960 rose above a year earlier and the increased production is selling for a higher average price. Even allowing for a possible sharp price break in late November or December, the 1960 average price is likely to exceed the 1959 average price of 16.1¢ lb. by at least ½¢, USDA indicates.

This is a significant difference for an enterprise that typically operates on a large volume and narrow margin, USDA says. The basis for this is the relatively short supply of broilers early in the year and relatively high prices for competing meats as the year progressed. Neither of these factors is likely to be as favorable for the broiler producers in 1961 as in 1960.

The new year will open with broiler supplies at a sharply higher level than a year earlier, thus setting a different price tone.

During early 1960 prices were maintained by the occasional tightening of supplies which occurred as a consequence of cuts from the year before in the volume of hatchings for early 1960 slaughter. This year there is not yet any evidence toward such cut-backs. In fact, one of the indicators, the number of pullets sold as broiler breeders, points to a greater supply of hatching eggs than during 1960.

Another factor is that red meat supplies will move up in 1961, from about 161 lb. to 165 lb. per person.

WEATHER

(Continued from page 1)

ber in the feed grain group, heavyweight of the nation's crops, swept the production index for all crops to a record 122%. The previous record was 118 in 1958 and 1959. The composite yield-per-acre index covering 28 leading crops rose to 141, exceeded only by the 143 reached in 1958. Corn, sorghum grain, peanuts, tobacco, dry beans and rice are setting new highs in yield-per-acre.

Corn production is set at 13% above Oct. 1 expected production with yield prospects increasing 1-3 bu. throughout the Corn Belt. Expected sorghum grain production advanced 2% during October to smash the former production record of 1958.

Expected soybean production slipped slightly as the effects of late-season dry weather became more evident at harvest time in Ohio, Michigan and Minnesota. Expected production is 4% larger than last year and the second highest of record. Oilseed supplies should be moderately higher than in 1959 and sharply above average.

As of Nov. 1 all corn production is forecast at a record 4,379,000,000 bu., slightly above last year's record and a third above average.

Soybean production is estimated at 560 million bushels, down slightly from the October estimate, but 4% higher than the 1959 crop.

Sorghum grain production is now estimated at a record 618 million bushels, 2% above last month's forecast and 7% more than in 1959 and 1% above the 1958 peak.

TOP OF THE HOPPER

(Continued from page 2)

supply of birds, and many of them are even putting in their own houses to assure birds for their plants. The publication notes that processors have overbuilt on processing facilities in several areas, and growers are finding opportunities to join one of several integrated programs tied in with a plant. "This trend may give some stability to the broiler business," Broiler Business comments. "Processors are closest to the ultimate consumers—and are most sensitive to consumer demand."

FEED MANUFACTURERS OPERATING in Georgia earned a compliment from F. S. Carr, chief of the feed section of the state's Department of Agriculture. A total of 1,461 samples—a record for the department for any one month—was picked up during August. After analysis, 1,335 were found to be as declared by manufacturers. Minor violations were found in only 65 samples and violations sufficient to assess penalties against manufacturers were found in 61. "This report, in my opinion, reveals that the feed manufacturers doing business in Georgia are doing a good job as to complying with guarantees," writes Mr. Carr.

KEEPING ONE'S EYE on the main target in the feed business is once again recommended by an economist who has studied the industry's structure in great detail. Dr. V. John Brensike summed up his comments at the Southeastern Feed Production School (page 30) with this advice: "If you as individuals and the feed industry as a whole can concentrate on producing formula feed at lower operating costs and pass these savings on to the feeders, and continue those formulas which will result in the highest gains per pound consumed, you will have a major answer to many of the trends facing you today."

AN AGRICULTURAL EXTENSION man was comparing today's feed man with his counterpart of not too many years ago. He termed today's feed sales or service personnel "salesmen of knowledge," in recognition of their increasingly important role as educators as well as salesmen and distributors of a product. This role, of course, is recognized by many within and outside the industry, but perhaps a lot more feed men will have to sell and fulfill this concept if they are to go ahead in the industry and agriculture generally.

The FEED MARKET

PRICE QUOTATIONS, MARKET TRENDS
OF PRINCIPAL INGREDIENTS

NOTE: Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bulk, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

A AND D FEEDING OIL

Boston: Demand slow; supply plentiful; 400 D, 3,000 A 19½¢ lb.; 300 D, 3,000 A 19¢; 300 D, 2,250 A 17½¢; 300 D, 1,500 A 16¢; 300 D, 750 A 14¢.

Chicago: Demand fair; trend steady; supply ample; straight A feeding oil, with 10,000 units vitamin A per gram, 7@7½¢ a million units of vitamin A, l.c.l., packed in 55 gal. drums, f.o.b. Chicago, drums included.

Minneapolis: Demand fair; supply ample; 10,000 A 31¢ lb.; 300 D, 2,250 A 17½¢ lb.; 300 D, 1,500 A 16¢ lb.; 300 D, 750 A 15¾¢ lb.

Denver: Demand fair; trend steady; supply ample; 21¢ lb.

ALFALFA MEAL

Chicago: Demand and supply fair; trend firm; dehydrated, 17% protein, 100,000 units vitamin A $49@50.

Buffalo: Demand and supply fair; trend steady to higher; $62.50, sacked, Boston.

St. Louis: Demand slow; trend strong; supply limited; suncured, 13% fine, sacked $48; dehydrated, 17%, 100,000 A pellets, demand slow, trend higher, supply ample, bulk $49.50.

Denver: Demand fair; trend steady; supply ample; dehydrated meal, sacked $51; bulk pellets $47.

Seattle: Demand fair; trend steady; supply good; 15% protein suncured $49, 150,000 A unit dehydrated $70, both delivered truck loads, sacked.

Boston: Demand and supply steady; dehydrated, 17% $54; suncured 13%, pellets, sacked $50.60.

Portland: Demand good; trend steady to higher; supply adequate; $46@71, sacked.

Philadelphia: Demand slow; supply fair; 17% dehydrated $58.50.

Kansas City: Demand fair; trend steady; supply ample; 17% dehydrated alfalfa, 100,000 A on arrival, pellets $46@48, reground pellets $48@49; 18% dehydrated alfalfa, 125,000 A on arrival, pellets $48@51, reground pellets $49@52; 20% dehydrated alfalfa, 150,000 A on arrival, pellets $48@52, reground pellets $50@53; suncured alfalfa, demand improved, supply adequate, 13% pellets $35@37; No. 1 ¾-in. $40, sacked.

Ft. Worth: Demand of dehydrated good, suncured fair; supply sufficient; sacked: dehydrated, 17%, 100,000 A $57.10, truck or rail; suncured: 13% ¾-in. grind No. 1 $48, truck; 15% fine ground, dry $50; with 2% fat added $52, rail or truck.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $57.

Omaha: Demand fair; trend steady; supply ample; 17% dehydrated, 100,000 A units, bulk pellets $46; sacked meal $51, Omaha basis.

Memphis: Demand fair; trend higher; supply ample; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $51.

Los Angeles: Demand moderate; trend steady; supply small but adequate; dehydrated meal, 17% protein, 100,000 A $51.50@52; dehydrated pellet meal, 17% protein, 100,000 A $52@54; suncured meal, 15% protein $45@46; suncured crumbles, 15% protein $47@48.

Minneapolis: Steady market; 17% dehydrated, 100,000 A units, reground pellets steady at $51, delivered Minneapolis; oiled reground pellets $53.

ANIMAL FAT (STABILIZED)

Chicago: Demand good; trend steady; supply fair; tank truck or carload, bleachable fancy tallow $5.75 cwt.; yellow grease $5 cwt.

Atlanta: Demand good; trend steady; supply limited; 5¢ lb., f.o.b. Alabama and Georgia processing plants.

Louisville: Demand fair; trend steady; supply good; prices down ½¢ gal. or more; bleachable white 5¾¢ lb., white tallow 6¼¢ lb., yellow grease 5½¢ lb., in tanks.

Boston: Demand improved; supply adequate; tallow 5¾¢ lb.; yellow grease 4¾¢ lb.

Ogden: Supply ample; $5.25 cwt.

Kansas City: Demand fair; trend steady; supply ample; stabilized prime tallow 5¼@5¼¢ lb.

Ft. Worth: Demand good; supply sufficient; prime tallow, tank cars 5¼¢ lb.; drums 7¢ lb.; f.o.b. north Texas packing plants with returnable drums.

San Francisco: Demand fair; supply ample; bleachable fancy 6¼¢ lb.; yellow grease 4¾¢ lb.

St. Paul: Demand good; supply ample; bleachable fancy price unchanged at 5¾¢ lb., f.o.b. producer's plant.

Salisbury, Md.: Demand excellent; supply limited; 5½¢ lb.

BARLEY FEED

Baltimore: Demand fair; trend firm; supply adequate; $44.50, sacked.

Chicago: Demand fair; trend steady; supply ample; $34, sacked.

Denver: Demand fair; trend steady; supply tight; rolled $2.05 bulk, $2.25 sacked.

Seattle: Demand and supply good; trend steady; $46, truck lots.

Milwaukee: Demand limited; trend unchanged; supply ample; feed barley 73¢ bu., bulk; barley feed $35.50, sacked; ground feed barley $41.50, sacked.

Boston: Demand steady; supply adequate; $45.50, sacked.

Philadelphia: Demand slow; supply fair; $41.50.

Portland: Demand good; trend firm; supply adequate; $45@46.50.

Ogden: Supply ample; rolled $45@46; whole $40@41.

Los Angeles: Demand slow; trend unchanged; supply adequate; standard rolled $3 cwt., standard ground $3 cwt., both sacked.

San Francisco: Demand fair; supply ample; rolled $58, ground $57.

BENTONITE (SODIUM)

Chicago: Demand fair; supply ample; trend steady; f.o.b. Wyoming and South Dakota shipping points: 200 mesh $14 and net $13.75; fine granular (80 to 100 mesh) $14.25 and net $14; granular, 30 mesh $16.50 and net $16.25.

Cincinnati: Demand steady; supply adequate; f.o.b. Cincinnati, minimum 30 ton lots; 80 granular $31.80, less than car lots $40; 200 mesh fine $31, less than car lots $40.

Denver: Demand fair; trend steady; supply ample; $24.50, warehouse.

BLOOD FLOUR

Louisville: Demand fair; trend steady; supply good; $75@80, sacked.

BLOOD MEAL

Chicago: Demand quiet; trend firm; supply fair; 80% protein $115, sacked.

Louisville: Demand fair; trend steady; supply good; $75@80, sacked.

Ogden: Supply good; $80.

Portland: Demand fair; trend steady; supply ample; $95@100, sacked.

Omaha: Demand good; trend strong; supply fair; 80% $85, sacked, Omaha.

Los Angeles: Demand slower; trend weaker; supply more plentiful; $5.50 a unit of ammonia, sacked.

San Francisco: Demand and supply fair; $4.75 a unit of ammonia, sacked.

BONE MEAL (STEAMED)

Chicago: Demand good; trend unchanged; supply fair; $95.50, sacked.

Denver: Demand normal; trend steady; supply ample; $112.50.

Buffalo: Demand fair; trend strong; supply light; $97, sacked.

Seattle: Demand good; trend firm; supply limited; $92, sacked, f.o.b. car Seattle.

Louisville: Demand slow; trend stronger; supply light; $95@100, sacked.

Boston: Demand and supply steady; $100.

Los Angeles: Demand fair; trend unchanged; supply limited; imported $80.75, 20 ton lots, sacked.

Portland: Demand fair; supply adequate; trend unchanged; $95@97.50, sacked.

Ft. Worth: Demand fair; supply light; $100, sacked, f.o.b. Ft. Worth, local manufacture.

Cincinnati: Demand good; trend steady; supply ample; $90, sacked, Cincinnati.

San Francisco: Demand good; supply ample; $75, sacked.

BREWERS DRIED GRAINS

St. Louis: Demand good; trend firm; supply limited; $45.

Chicago: Demand fair; trend firm; supply ample; 26% protein $44.50@46.

Buffalo: Demand fair; trend steady to higher; supply fair to poor; $58.50, Boston.

Los Angeles: Demand steady; trend firmer; supply limited; $51.

Cincinnati: Demand poor; trend steady; supply adequate; $53.

Ft. Worth: Demand light; supply sufficient; 26% protein $50.90@51.90, November.

Milwaukee: Demand fair; trend strong; supply limited; $47.50 bulk, $56.50 sacked.

Louisville: Demand good; trend steady; supply fair; $56, sacked.

Boston: Demand active; supply very tight; 24%, none offered; 26% $58.

Philadelphia: Demand slow; trend unsettled; supply light; $57.25.

San Francisco: Demand fair; supply ample; $51, sacked.

BREWERS DRIED YEAST

Los Angeles: Demand steady; trend unchanged; supply limited; 10¢ lb., 5 ton lots; 11¢ lb., 1 ton lots; 12¢ lb., less than ton lots; all sacked.

Cincinnati: Carlots 11¢ lb.; 5 ton lots 11¢ lb.; ton lots 11½¢ lb., all sacked.

Seattle: Demand slow; trend steady; supply ample; $15 cwt., sacked.

Denver: Demand fair; trend steady; supply ample; 9¢ lb.

Buffalo: Demand fair; trend steady; supply ample; $9.05 cwt.

Louisville: Demand fair; trend fair; supply good; 10@10½¢ lb., sacked.

Portland: Demand fair; supply ample; trend unchanged; 11@12¢ lb.

Omaha: Demand slow; trend fair; supply plentiful; 11¢ lb.

Boston: Demand and supply steady; 11¢ lb.

San Francisco: Demand fair; supply good; 10¢ lb., sacked.

Chicago: Demand fair; trend steady; supply ample; 9½@10¢ lb., carlots, sacked; 9¾@12½¢ lb., l.c.l.

Milwaukee: Demand fair; trend steady; supply ample; 10½@12½¢ lb., ton lots, sacked.

St. Louis: Demand fair; trend firm; supply ample; 9½@10¢ lb., carlots, sacked; 10½¢ lb., ton lots; 11½¢ lb., less than ton lots.

Pittsburgh: Carlots 10¢ lb.; 5 ton lots 11¢ lb.; ton lots 11½¢ lb., all sacked.

New Orleans: Carlots 10¢ lb.; 5 ton lots 11¢ lb.; ton lots 11½¢ lb., all sacked.

New York: Carlots 9½¢ lb.; 10 ton lots 10¢ lb.; 5 ton lots 10½¢ lb., ton lots 11¢ lb., all sacked, f.o.b. New Jersey.

BUTTERMILK (CONDENSED)

Chicago: Demand and supply fair; trend firm; in 500 lb. barrels $3.25@3.50 cwt.

Los Angeles: Demand slow; trend unchanged; supply adequate; 5½¢ lb., in 100 lb. lots; 4½¢ lb., in 500 lb. lots; both in barrels.

Louisville: Demand dull; trend steady; supply light; $4.25 cwt., in paper drums.

Boston: Demand and supply steady; 4¾¢ lb.

Ogden: Supply good; $4.40 cwt., drum.

Philadelphia: Demand slow; supply fair; $4.25 cwt.

San Francisco: Demand fair; supply good; $5 cwt., drums.

CALCITE CRYSTALS AND FLOUR

(All prices net, sacked, including freight)

New York: Crystals $16.28, flour $10.28.
Buffalo: Crystals $17.11, flour $11.11.
Toledo: Crystals $18.96, flour $12.96.
Boston: Crystals $17.63, flour $11.63.
Lime Crest, N.J.: Crystals $11.50, flour $5.50.

CALCIUM CARBONATE

Chicago: Demand fair; trend steady; supply ample; fine grind, plain, 100 lb. bags $9.54; bulk, in hopper cars $7.54; bulk, in boxcars $8.04; granular grind $1 premium.

Minneapolis: Fine grind, 50 lb. bags $12.75; 100 lb. bags $12; bulk, boxcar $10.50; bulk, hopper $10; coarse grind $1 premium, delivered Minneapolis.

Seattle: Demand and trend steady; supply good; $14, ex-warehouse, sacked.

Cincinnati: Demand fair; trend steady; supply adequate; $7@7.50 cwt.

Los Angeles: Demand fair; trend steady; supply adequate; flour $10.15, 20 ton cars, meal $11.15, 20 ton cars, both sacked.

CHARCOAL

Los Angeles: Demand slow; trend unchanged; supply adequate; hardwood poultry: $156, less than ton lots; $144.40, ton lots; both sacked.

Boston: Demand and supply light; granular No. 6 $110.

Chicago: Demand fair; trend firm; supply fair; 50 lb. multiwalls $110.

San Francisco: Demand steady; supply ample; $141, sacked.

COCONUT OIL MEAL

Seattle: Demand fair; trend steady; supply ample; solvent type $68, f.o.b. car Seattle, sacked.

Los Angeles: Demand fair; trend unchanged; supply ample; copra cake $63.

Portland: Demand slow; trend lower; supply adequate; $62.

San Francisco: Demand fair; supply ample; solvent $52, expeller $69.

COD LIVER OIL (FORTIFIED)

Boston: Demand slow; supply plentiful; 300 D, 3,000 A 20¢ lb.; 600 D, 2,250 A 18½¢; 300 D, 2,250 A 18¢; 600 D, 1,500 A 17¢; 300 D, 1,500 A 16½¢.

CONDENSED FISH SOLUBLES

Denver: Demand light; trend weak; supply ample; 3¢ lb., West Coast.

Boston: Demand slow; supply plentiful; 2¢ lb.

Los Angeles: Demand fair; trend steady; supply adequate; 2¢ lb.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are bulk basis, sacked basis $5 more)

Minneapolis: Feed $45.60, meal $64.60.
Atlanta: Feed $49, meal $65.
Birmingham: Feed $47.60, meal $66.60.
Boston: Feed $50.50, meal $69.50.
Chicago: Feed $39, meal $58.
Cleveland: Feed $46.90, meal $65.90.
Denver: Feed $49.20, meal $68.20.
Ft. Worth: Feed $47.70, meal $66.70.
Indianapolis: Feed $44.20, meal $63.20.
Kansas City: Feed $39, meal $58.
Louisville: Feed $46.60, meal $64.60.
New Orleans: Feed $44.90, meal $67.90.
New York: Feed $50.10, meal $69.10.
Norfolk: Feed $49.50, meal $68.50.
Philadelphia: Feed $49.70, meal $68.70.
St. Louis: Feed $39, meal $58.

CORN OIL MEAL

Louisville: Demand dull; trend steady; supply light; $53.55, sacked.

Seattle: Demand good; trend easy; supply ample; $51, car or truck.

Cincinnati: Demand fair; trend steady; supply adequate; $45.

COTTONSEED OIL MEAL

Memphis: Demand fair; trend weak; supply ample; prime 41% protein, old process $53.50; new process, 41% solvent $50.

Kansas City: Demand slow; trend weaker; supply ample; 41% old process $53.50@54; solvent process $49@50, Memphis.

Louisville: Demand fair; trend easy; supply normal; old process $63.60, steady; new process $60.60, off 90¢; all sacked.

Chicago: Demand and supply fair; trend easier; Memphis basis, hydraulic $54.

Atlanta: Demand and supply fair; trend weaker; 41% $58, f.o.b. Georgia and Alabama; $55, north Alabama; $53, Mississippi; $54, Tennessee producing mills.

St. Louis: Demand fair; trend firm; supply ample; no quotations.

Denver: Demand fair; trend steady; supply fair; $58.30.

Buffalo: Demand fair to poor; trend steady to poor; supply adequate; $74, sacked, Boston.

Seattle: Demand fair; trend firm; supply ample; $68.50, f.o.b. car Seattle.

Philadelphia: Demand slow; supply light; $67.50, 30 ton cars.

Portland: Demand slow; trend lower; supply ample; $63.

Ogden: Supply good; 41% $63@65.

Cincinnati: Demand poor; trend steady; supply adequate; $58.60, 40 ton lots.

Ft. Worth: Demand fair on meal, good on hulls; supply of meal sufficient, hulls tight; 41% old process $61, f.o.b. mills, Ft. Worth; carlots, solvent, 2% fat added $57, November-December, delivered Ft. Worth; pellets $2 additional, hulls $19.

Omaha: Demand slow; trend easy; supply ample; 41% solvent $57.70, delivered Omaha.

Wichita: Demand fair; supply ample; 41% old process $68, sacked.

Boston: Demand cautious; supply light; 41% $73.50@74.50, sacked.

Los Angeles: Demand slow; trend unchanged; supply ample; $54.

San Francisco: Demand fair; supply ample; 41% $58.50; 44% $62.

CURACAO PHOSPHATE

New York: Minimum 14% phosphorus $46.50 sacked, $43.50 bulk, f.o.b. New Orleans, Jacksonville and Philadelphia.

D ACTIVATED ANIMAL STEROL (POWDERED)

Kansas City: Demand fair; trend steady; supply ample; 1,500 ICU 9¾¢ lb.; 3,000 ICU 11¢ lb.

Cincinnati: Demand fair; trend steady; supply ample; 1,500 ICU 11@12¢ lb.; 3,000 ICU 10¢ lb., warehouse.

D ACTIVATED PLANT STEROL (POWDERED)

Chicago: Demand fair; supply ample; 4,000,000 U.S.P. units per lb., 15¢ lb. in ton lots, less than ton lots 17¢ lb.; 12,000,000 units per lb., 5 tons to a carload 28¢ lb., ton lots and less 30¢ lb.

DEFLUORINATED PHOSPHATE

Coronet, Fla.: Minimum phosphorus 18%, minimum calcium 31%, maximum calcium 34%, maximum fluorine .18%; guaranteed uniform analysis; carload $66.25, sacked; 100 lb. multiwall bags, bulk $63.25; truck load $67, sacked, in 100 lb. multiwall bags, bulk $64, f.o.b. Coronet, Fla.

Tupelo, Miss.: Minimum phosphorus 14%, minimum calcium 28%, maximum fluorine .14% $57.07, f.o.b. Tupelo in 100 lb. multiwall bags, $54.07 bulk.

Wales, Tenn.: Minimum phosphorus 18%, minimum calcium 33%, maximum 36%, maximum fluorine .18% $71.80 (or $3.99 per unit of P), f.o.b. Wales in 100 lb. multiwall bags, $3 less in bulk.

Butte, Mont.: Minimum phosphorus 18%, minimum calcium 32%, maximum calcium 36%, maximum fluorine .18%, $81 (or $4.50 per unit of P), f.o.b. Butte, 100 lb. multiwall bags; bulk $78; truck lots of less than 10 tons $10 more, bagged or bulk.

Houston: Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 35%, maximum fluorine .19% $74.35 net ton, f.o.b. Houston, 100 lb. multiwall bags; $71.35 bulk.

Cincinnati: 18% phosphorus $81.02; 14% phosphorus $71.03, f.o.b. Cincinnati.

Portland: Demand fair; supply ample; trend unchanged; $93.50@95 for product carrying a minimum of 18% phosphorus, 31.5% calcium and a maximum of 0.1% fluorine; $92@93.50 dock for a minimum of 10 ton lots.

DICALCIUM PHOSPHATE

Trenton, Mich.: 18½% P $33, bulk, boxcar/hopper car; $36, bagged, in carloads or truck loads; $96, bagged, in less than carload lots; 21% P, $94.65, bulk, boxcar/hopper car; $97.65, bagged, in carloads or truck loads; $107.65, bagged, less than carload; all prices f.o.b. Trenton, freight equalized with nearest producing point.

Chicago: Bulk 18.5% phosphorus, carlots or trucks $83; 20,000 lb. or more $86 net ton in 100 lb. papers; less than 20,000 lb. $96, basis Chicago Heights, Ill., or Nashville, Tenn.; 21% phosphorus, carlots or trucks, bulk $94.65; 20,000 lb. or more, per net ton in 100 lb. papers, $97.65 and less than 20,000 lb., $107.65, basis Chicago Heights, Ill., or Nashville, Tenn.

Bonnie, Fla.: Minimum phosphorus 18½%, granular, $86 (or $4.65 unit of P), freight equalized from nearest producing point, carload basis; bulk carloads $3 less; in truck loads of less than 10 tons, $10 more. Western slope prices, for delivery at established railroad stations and by truck at regular feed mixing plants: California, Arizona, Nevada and Utah, $99.90; Washington, Oregon, Montana and Idaho, $107.15; bulk carloads $3 less; truck loads less than 10 tons, $10 more.

Columbia, Tenn.: Minimum phosphorus 18.5%, minimum calcium 24% $86, f.o.b. Columbia, in 100 lb. multiwall bags; freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Texas City, Texas: Minimum phosphorus 18.5%, minimum calcium 20%, maximum calcium 23%, maximum fluorine .12%; carload and truck load $80.50, sacked in 100 lb. multiwall bags, bulk $77.50, f.o.b. Texas City.

Cincinnati: 18½% phosphorus $92.15, f.o.b. Cincinnati.

Denver: Demand good; trend steady; supply ample; $93.50, delivered.

DISTILLERS DRIED GRAINS

Cincinnati: Demand fair; trend steady; supply adequate; $62.

Buffalo: Demand fair to good; trend steady; supply poor; $68, Boston.

Seattle: Demand fair; trend firm; none available; $69, delivered truck lots, sacked.

Philadelphia: Demand slow; trend unsettled; supply very light; $67.75.

Louisville: Demand good; trend steady; supply light; bourbon grains: light $57, dark $58, solubles $73, all sacked.

Boston: Demand active; supply tight; dark $67.50, nominal.
San Francisco: Demand fair; supply ample; solubles $79, sacked.

DRIED BEET PULP

Ft. Worth: Demand slow; offerings light; plain $60.15, sacked, 50 lb. bags, November.
Portland: Demand fair; trend steady; supply ample; $48.60, sacked.
Boston: Demand active; supply very scarce; $59.50, sacked.
Milwaukee: Demand limited; trend unchanged; supply adequate; old crop: plain $74.50, molasses $71; new crop: plain and molasses $51.25.
Atlanta: Demand fair; trend steady; supply limited; $60.66, sacked, delivered.
Buffalo: Demand and supply fair; trend steady; $60.10, sacked, Boston.
Denver: Demand fair; trend steady; supply ample; $65, f.o.b.
Seattle: Demand good; trend steady; supply ample; $49, sacked, delivered carlots.
Ogden: Supply ample; $39@45.
San Francisco: Demand good; supply fair; $42.80.
Los Angeles: Demand good; trend much firmer; supply adequate; $49.90.

DRIED BUTTERMILK

Louisville: Demand slow; trend firmer; supply ample; $12.50@13 cwt., sacked.
Buffalo: Demand fair; trend steady; supply limited; $13.35 cwt.
Ogden: Supply ample; $17.25 cwt.
San Francisco: Demand fair; supply ample; 13½¢ lb., sacked.
Boston: Demand light; supply short; 14¢ lb., nominal.
Chicago: Demand quiet; trend steady; supply adequate; medium acid $11.75@12.25 cwt., sweet cream $11.75@12.25 cwt., both sacked.
Los Angeles: Demand slow; trend unchanged; supply adequate; 13½@13¾¢ lb., sacked.

DRIED CITRUS PULP

Atlanta: Demand good; trend strong; supply nil; pulp $47.50, sacked, f.o.b. Florida processing plants; meal $42.50, sacked, f.o.b.
Buffalo: Too scarce to quote.
Boston: Demand quiet; supply nil; withdrawn because of lack of offerings.
Los Angeles: Demand good; trend firm; supply practically exhausted; orange pulp $43, lemon pulp $41, both nominal only.
San Francisco: Demand and supply fair; meal $48, sacked.

DRIED SKIM MILK

Boston: Demand good; supply scarce; 12½¢ lb., nominal.
Omaha: Demand good; trend strong; supply short; 12¢ lb.
Philadelphia: Demand slow; supply fair; $13 cwt.
Buffalo: Demand and supply fair; trend steady; $13.35 cwt.
Louisville: Demand dull; trend steady; supply light; $12.50@13 cwt., sacked.
Chicago: Demand slow; trend steady; supply fair; $11.75@12.25 cwt., sacked.
Ogden: Supply ample; $15.15 cwt., drum.
Cincinnati: Demand fair; trend steady; supply adequate; 12@13¢ lb., sacked.
Los Angeles: Demand slow; trend unchanged; supply adequate; 15¢ lb., less than ton lots; 14¾¢ lb., ton lots; both sacked.
San Francisco: Demand and supply fair; 14½¢ lb., sacked.
Minneapolis: No change from last week; demand good; supply short; 12¼@12½¢ lb.

DRIED WHEY

Omaha: Demand and supply good; trend fair; $5.50 cwt.
Philadelphia: Demand slow; supply fair; $6.25 cwt.
Ft. Worth: Demand fair; supply adequate; carlots, standard $5.50, sacked, delivered Ft. Worth; ton lots $5.75, f.o.b. warehouse, Ft. Worth.
Louisville: Demand slow; trend steady; supply light; $5.50@6 cwt., sacked.
Chicago: Demand quiet; trend firm; supply ample; $4.95 cwt., sacked.
Kansas City: Demand fair; trend steady; supply adequate; regular or partially delactosed $5.25 cwt., sacked.
Seattle: Demand steady; trend easy; supply good; $5.85 cwt., ex-warehouse, l.c.l.
Denver: Demand slow; trend steady; supply ample; $5.35, delivered truck.
Portland: Demand fair; trend steady; supply adequate; $5.50 cwt., sacked.
Ogden: Supply good; $6.90 cwt., sacked.
Cincinnati: Demand fair; trend steady; supply adequate; $5.75 cwt., sacked.
Los Angeles: Demand fair; trend steady; supply adequate; $5.18 cwt., carloads; $5.35 cwt., l.c.l.; both sacked.
Boston: Demand and supply good; 5¼¢ lb.
San Francisco: Demand steady; supply good; $5.25 cwt., sacked.
Minneapolis: Supplies tapering off; some distress stocks cleaned up; demand improving; price up 5¢ to $5.50 cwt.

FEATHER MEAL (HYDROLYZED)

Atlanta: Demand poor; trend weak; supply ample; $63, f.o.b. Alabama and Georgia processing plants.
Ft. Worth: Demand fair; supply sufficient; 85%-87% protein $65@67.50, sacked, f.o.b. trucks, north Texas plants.
Boston: Demand fair; supply improved; $64@65.
Los Angeles: Demand excellent; firm undertone; supply adequate; 90¢ a unit of protein, sacked.
Salisbury, Md.: Demand spotty; supply ample; $62.

FISH MEAL

Boston: Demand good; supply ample; resales $90@92.
Cincinnati: Demand fair; trend steady; supply adequate; $108.60.
Portland: Demand fair; trend firm; supply adequate; $1.55 a protein unit, sacked.
Louisville: Demand dull; trend up a trifle; supply light; $110@115, sacked.
Minneapolis: Demand fair to poor; supply ample; West Coast 60% blended steady at $118, sacked, delivered; Alaskan herring supplies depleted; Canadian herring up 2¢ from last week to $1.55 a unit, West Coast, subject to production.
Chicago: Demand good; supply ample; trend steady; sacked: menhaden, East Coast $90, Gulf $90; menhaden scrap, East Coast $86, Gulf $86; Canadian herring meal $1.55 a unit of protein.
Milwaukee: Demand limited; trend weaker; supply adequate; 60% $111, sacked, Chicago basis.
Atlanta: Demand good; trend steady; supply limited; 60% menhaden $90@92.50, sacked, f.o.b. Atlantic and Gulf ports.
Buffalo: Demand fair; trend steady; supply ample; 60% protein menhaden $103 bulk, $108 sacked.
Denver: Demand good; trend steady; supply nil; Peruvian anchovie meal $115, Denver.
Seattle: Demand good; trend firm; supply fair; $1.70 a unit protein, ex-dock Seattle, sacked (Alaskan production).
Ogden: Supply ample; $1.05 a unit, f.o.b. Coast; 65% $105@108.
Ft. Worth: Demand fair; supply sufficient; sacked: 65% protein Peruvian $93.50, November; 60% protein menhaden $100, delivered Ft. Worth.
Omaha: Demand good; trend strong; supply plentiful; 60% menhaden $110, f.o.b. Omaha.
Los Angeles: Demand slow; trend weaker; supply moderate; local production, 60% protein $1.50 a unit, sacked.
San Francisco: Demand slow; supply ample; $1.40 a unit of protein.

HAY

Cincinnati: Demand good; trend steady; supply tight; by truck: No. 1 red clover $32; clover mixed with straw $25.
Ogden: Supply ample; $25 ton in the barn.
Philadelphia: Demand slow; supply light; $25.50.
Portland: Demand slower; trend steady to lower; supply plentiful; alfalfa $32@36, baled, Portland-Seattle.
Louisville: Demand fair; trend steady; supply good; No. 1 hay, any variety of local $30, No. 2 $28; straw $18@20.
Seattle: Demand and supply fair; trend firm; alfalfa, U.S. No. 2 green $35, delivered truck lots, baled.
Ft. Worth: Demand fair for alfalfa, practically nil for others; supply sufficient; offerings on alfalfa dwindling; carlots, baled, No. 1 alfalfa $42@44, No. 2 $40@42; No. 2 prairie, nominal $30@32; No. 2 Johnson, nominal $28@30, delivered Texas common points.
Boston: Demand and supply steady; No. 2 timothy $39@42.
Wichita: Demand good; supply sufficient; prairie $22@25; alfalfa $24@28 baled.
Los Angeles: Demand very slow; trend unchanged; supply limited; U.S. No. 1 $33@35; U.S. No. 2 leafy $29.50@31; U.S. No. 2 green $31@32; U.S. No. 2 $27@28.

HOMINY FEED

Louisville: Demand slow; trend strong; supply normal; $49.50, up $3.50.
Cincinnati: Demand poor; trend steady; supply adequate; $43.
Kansas City: Demand fair; trend steady; supply adequate; white or yellow $33@34.
Milwaukee: Demand and supply fair; trend unchanged; $44.50 sacked, $40 bulk, both Chicago basis.
Chicago: Demand fair; trend easier; supply ample; $39.50.
Seattle: Demand good; trend easy; supply limited; $53, sacked, delivered carlots.
Buffalo: Demand and supply fair; trend lower; $50, Boston.
St. Louis: Demand slow; trend firm; supply limited; $40.50.
Boston: Demand cautious; supply adequate; $50.
Memphis: Demand poor; trend weak; supply ample; white $41.80, yellow $41.80.

LINSEED OIL MEAL

Minneapolis: Market strengthening; production down because processors are finding it hard to sell oil; solvent firm at $53, about 50¢ better than week ago; 32% expeller up $1 to $58.
Ft. Worth: Demand slow; supply sufficient; 34% protein solvent $68.50 November, $69.60 December.
Milwaukee: Demand limited; trend firm; supply fair; expeller $68@68.50, solvent $62.50, both Chicago basis.
Chicago: Demand good; trend steady; supply fair; Minneapolis basis: solvent $52.50, expeller $57.50.
Seattle: Demand fair; trend steady; supply good; 34% protein (Montana) $55, delivered carloads, sacked.
Denver: Demand slow; trend steady; supply ample; $69.30, sacked.
Philadelphia: Demand slow; supply fair; 34% $70.
Louisville: Demand slow; trend steady; supply light; old process $76, new process $71, all sacked.
Kansas City: Demand fair; trend steady; supply adequate; solvent process $52.50@53; old process $57@57.50, Minneapolis.
Portland: Demand slow; trend steady; supply adequate; $55, sacked.
Omaha: Demand good; trend strong; supply tight; 34% solvent $58.80, 32% old process $63.90, Omaha basis.
Cincinnati: Demand poor; trend steady; supply adequate; new process $52.50; old process $57.50, Minneapolis.
Boston: Demand slow; supply light; $68.70.
Wichita: Demand fair; supply ample; 34% $75, sacked.
Los Angeles: Demand slow; trend unchanged; supply limited; local production, 31% protein $71.
San Francisco: Demand fair; supply ample; $69.50.

LIVER AND GLANDULAR MEAL

Omaha: Demand and trend fair; supply ample; 65% $175, sacked, Omaha.

MALT SPROUTS

Cincinnati: Demand fair; trend steady; supply adequate; No. 1 $38.
Chicago: Demand good; trend higher; supply moderate; No. 1 uneven bags $41.
Milwaukee: Demand good; trend strong; supply limited; $38 bulk; uneven sacks $41; even sacks $45.50.
Boston: Demand and supply limited; $48, sacked, nominal.

MEAT AND BONE MEAL

Boston: Demand slow; supply adequate; $3 a protein unit; converted 50% $62.50.
Wichita: Demand heavy; supply sufficient; 50% $80, sacked, f.o.b. plant.
St. Paul: Demand fair; supplies ample; price off $3 on top side of range from week ago, currently $68@72.
Portland: Demand good; trend higher; supply tight; $72.50, sacked.
Louisville: Demand slow; trend steady; supply good; $70@75, sacked.
Seattle: Demand good; trend firm; supply ample; $1.50 a unit protein, ex-processing plant, sacked.
Buffalo: Demand fair; trend advancing; supply light; 50% meat scraps $70 bulk, $75 sacked.
Chicago: Demand slow; trend steady; supply fair; 50% protein $75, sacked.
St. Louis: Demand fair; trend firm; supply adequate; $65.
Denver: Demand fair; trend steady; supply ample; $60 bulk, $62.50 sacked.
Ft. Worth: Demand good; supply sufficient; meat and bone, 50% $64 bulk, $67 sacked, f.o.b. Ft. Worth.
Kansas City: Demand fair; trend steady; supply ample; 50% $65.
Ogden: Supply ample; 50% protein $72.50, sacked.
Cincinnati: Demand good; trend firmer; supply good; 50% meat and bone scraps $68.50, Cincinnati.
Omaha: Demand good; trend strong; supply plentiful; $70.
Los Angeles: Demand fair; trend unchanged; supply ample; 50% protein $1.40 a unit.
San Francisco: Demand fair; supply ample; $1.40 a unit of protein.

MILLFEEDS

Minneapolis: Considerably more buying interest noted; enough improvement to lift prices despite mills operating on heavy schedules; bran jumped $2.50@3 to $40, sacked in a week; middlings gained $2@2.50 to $38@38.50, sacked; red dog advanced $2@3 to $42, sacked.
Kansas City: Demand fair; trend firm; supply little tight; sacked, bran $36.50@37, shorts $36@36.50; bulk, bran $31@31.50, shorts $33@33.50, middlings $33@33.50.
Chicago: Demand fair; trend firm for bran, irregular on midds. and red dog; supply adequate; standard bran $34, standard midds. $37.50, red dog $41.50@42.50.
Ft. Worth: Demand fair; offerings sufficient; bran, bulk $39, burlaps $45; gray shorts, bulk $41.50, burlaps $43; bulk middlings $41.50, delivered Texas common points; bran $1.50@2 lower, shorts 50¢@$1.50 lower and middlings 50¢ lower; sacked bran unchanged; sacked shorts 50¢ lower, compared with previous week.
Wichita: Demand fairly active; supply offsets demand; Nov. 7 basis Kansas City: bran $35.75@36.25, shorts $35.75@36.25, sacked; both bran and shorts declined $1.50, compared with the preceding week.
Omaha: Demand good; trend strong; supply ample; sacked bran $37; sacked gray shorts $37; bulk standard midds. $34; all Omaha basis.
Memphis: Demand poor; trend weak; supply ample; wheat bran $38.80, gray shorts $38.80, standard midds. $38.80.
St. Louis: Demand fair; trend easy; supply ample; sacked bran $42, shorts $41; bulk bran $39, middlings $38.
Louisville: Demand fair; trend easy; supply good; bran $47.30, off $1.50; mixed feed $47.80, off $1.50; shorts $48.80, off $1.40; all sacked.
Cincinnati: Demand poor; trend lower; supply adequate; bran $39, middlings $41.
Buffalo: Some sporadic "protective" buying in millfeeds noted Nov. 7-8 as some large mixers hedged against future price uncertainties; country trade also joined the move; mixers' business and consumption held steady; local levels were at or below western competition; sacked differential on bran and middlings widened slightly to $6 from $5.50; bulk bran ended unchanged, sacked was up 50¢; bulk middlings were unchanged to up 50¢ and sacked rose 50¢@$1; red dog held unchanged. Quotations Nov. 9: bulk bran $35@36, sacked $41@42; bulk middlings $38.50@39.50, sacked $44.50@45.50; bulk red dog $43@47, sacked $45@52.
Boston: Demand spotty; supply adequate; bran $44.50, middlings $46.50.
Philadelphia: Demand slow; supply fair; bran $44, standard midds. $46, red dog $52.
Denver: Demand good; trend steady; supply ample; shorts $39.75, bran $40.25, millrun $40.
Ogden: Supply average; to Utah: red bran and millrun $38, middlings $43.
Seattle: Demand fair; trend steady; supply ample; $40, delivered common transit points, carlots.
Portland: Demand slow; trend barely unchanged; supply adequate; $38@39.
San Francisco: Demand good; supply fair; millfeed $46.50; red bran $49.
Los Angeles: Standard millrun $47@47.50, fair demand, firmer trend, light supplies; red bran $49.50@50.50, poor demand, weaker trend, ample supplies.

MINERAL FEED

Wichita: Demand heavy; supply sufficient; all-purpose with iodine, 50 lb. blocks $97.50, 100 lb. bags $92.50, f.o.b. plant.
Ft. Worth: Demand fair; supply adequate; all-purpose granules $90, block $70; mineral phosphorus 5% granules $106, block $113; cattle-sheep mineral 7% phosphorus granules $100, block $107; hog mineral phosphorus 3½% granules at $87, phosphorus 2% $77 (all in 50 lb. paper bags).
Portland: Demand fair; trend steady; supply ample; $44@45, sacked.
Seattle: Demand fair; trend steady; supply good; mixer mineral $48, all-purpose mineral $85, delivered ex-warehouse, sacked.
Sioux City: 50 lb. mineral blocks 8.2% phosphorus $92; 7.5% phenothiazine sheep mineral blocks $4 each.
Ogden: Supply ample; $113 ton in 50 lb. blocks; $103 ton, granular, 50 lb. bags.
San Francisco: Demand steady; supply good; all-purpose with iodine $70, sacked.

MOLASSES

Minneapolis: Prices unchanged; blackstrap $31, tank truck, delivered; beet $28, blend $29.50.
Kansas City: Demand fair; trend firm; supply tight; blackstrap 13¢ gal., New Orleans.
Los Angeles: Demand good; trend steady; supply adequate; $22.50, f.o.b. tank cars; $22.75, f.o.b. tank trucks.
Louisville: Demand fair; trend strong; supply normal; up ½¢ gal.; 15¢ gal. in tank car lots, f.o.b. Gulf ports.
Seattle: Demand and supply good; trend firm; $23.75, f.o.b. Seattle, tank truck lots.
St. Louis: Demand slow; trend strong; supply adequate; 13¢ gal., tank cars, New Orleans.
Buffalo: Demand and supply fair; trend higher; 14½¢ gal., f.o.b. Albany.
Denver: Demand fair; trend steady; supply ample; 11¾¢ gal., New Orleans; $35 ton, Denver.
Atlanta: Demand good; trend steady; supply limited; citrus $20, f.o.b. Florida processing plants.
Cincinnati: Demand fair; trend steady; supply adequate; 12½¢ gal., New Orleans.
Boston: Demand seasonal; supply plentiful; 14¢ gal. in tank cars.
Milwaukee: Demand fair; trend firm; supply ample; blackstrap 12½¢ gal., f.o.b. New Orleans.
Ft. Worth: Demand good; supply sufficient; blackstrap 13¢ gal., f.o.b. Houston; delivered Ft. Worth, truck $28.93, seller's market price on date of shipment.
Memphis: Demand fair; trend steady to higher; supply ample; blackstrap 12½¢ gal., tank car, f.o.b. New Orleans.
San Francisco: Demand and supply good; $23.75, f.o.b. cars Richmond, Cal.

OAT PRODUCTS

Minneapolis: Prices steady; no change from last week; rolled $72@73, feeding oatmeal $62@65, pulverized $40@40.50, crimped $58, reground oat feed $18@22, all sacked.
Boston: Demand slow; supply ample; white pulverized $54.50, sacked; reground oat feed $26, sacked.
Memphis: Demand poor; trend steady; supply ample; 3½% protein, reground oat feed $28.30.
Louisville: Demand slow; trend steady; supply light; reground $28.40, up $1; rolled oats $81; feeding oatmeal $76, pulverized oats $49.90; crimped oats $63.90,; all sacked.
Chicago: Demand fair; trend irregular; supply ample; reground oat feed $18; No. 1 fine ground feeding oatmeal $71; feeding rolled oats $75.
Seattle: Demand good; trend firm; supply fair; $57, delivered truck lots, 38 lb. or better.
Cincinnati: Demand poor; trend steady; supply adequate; pulverized white oats $46@53.
Philadelphia: Pulverized white, demand slow, supply fair $48; domestic, demand slow, supply light $27.30; Canadian oat feed, demand fair, supply light $30.50, all sacked.
Ft. Worth: Demand slow; supply sufficient; 10% protein oat millfeed $42.80, reground $26.30, sacked.
Los Angeles: Demand slow; trend firm; supply adequate; local production, pulverized $67, sacked.

OYSTER SHELL

Boston: Demand and supply steady; in paper $26.52.
Cincinnati: Demand fair; trend steady; supply adequate; 80 lb. bags $23.85; 50 lb. bags $24.10; 25 lb. bags $26.35.
Louisville: Demand fair; trend steady; supply normal; in 80 lb. bags $23.95; in 50-lb. bags $24.20; in 25 lb. bags $26.45.
Seattle: Demand and trend steady; supply good; eastern $36, delivered carlots, sacked.
Portland: Demand fair; trend steady; supply adequate; $27.50@35, sacked.
Los Angeles: Demand fair; trend unchanged; supply ample; $15.40, sacked.
San Francisco: Demand fair; supply ample; local $15, eastern $26, sacked.

PEANUT OIL MEAL

Atlanta: Demand fair; trend steady; supply limited; 45% $55 for expeller; $52 for solvent, f.o.b. Georgia and Alabama producing mills.
Milwaukee: Demand and supply fair; trend unchanged; 26% $44 sacked, $40 bulk, both Chicago basis.

PEAT MOSS

Chicago: Demand and supply fair; trend firm; standard 7½ cu. ft. bale $3.80.
Seattle: Demand fair; trend easy; supply good; $2.60 bale, delivered truck lots.
Boston: Demand and supply steady; $3.15 bale, in carlots.
Los Angeles: Demand fair; trend unchanged; supply ample; Canadian, 5.6 cu. ft. bales $3.65.
Philadelphia: Demand slow; supply fair; $2.85 bale, f.o.b. pier.
Portland: Demand sluggish; trend steady; supply adequate; $3@3.15 per 5.6 cu. ft. bale.
Cincinnati: Demand good; supply good; truck loads $3.45 a bale, f.o.b. Cincinnati.
San Francisco: Demand and supply fair; $3.65 a bale.

POTASSIUM IODIDE (U.S.P.)

Chittenango, N.Y.: Demand good; trend higher; supply adequate; standard trace mineral blends: 90% U.S.P. KI and 10% calcium stearate, magnesium carbonate or calcium hydroxide: 100 lb. drums $1.42 lb.; 200 lb. and up $1.40 lb.; delivered basis.
Cincinnati: Demand good; trend steady; 90% KI in calcium stearate or carbonate mixtures: 250 lb. drums $1.35; 200 lb. in 100 lb. drums $1.35; 100 lb. drums $1.38; 25 lb. drums $1.41, f.o.b. Cincinnati.

POULTRY BY-PRODUCTS

Atlanta: Demand fair; trend steady; supply limited; meal $64, f.o.b. Alabama and Georgia processing plants.
Ft. Worth: Demand excellent; none available; 55% protein $75@77.50, nominal, sacked, f.o.b. north Texas plants.
Boston: Demand slow; supply spotty; $70, nominal.
Los Angeles: Demand excellent; firm undertone; supply adequate; $1.20 a unit of protein, sacked.
Salisbury, Md.: Demand good; supply ample; meal $72.

RIBOFLAVIN

Cincinnati: Trend steady; feed grade (in feed supplements) 4¢ gm. in less than ton lots in 3.36 to 15 gm./lb. mixtures; 3¢ in ton lots or more; freight prepaid or paid to destination.

RICE BY-PRODUCTS

Ft. Worth: Demand good; supply moderate; rice bran $33@34, f.o.b. south Texas rice mills, sacked; hulls $4.50, sacked, f.o.b. November delivery.
Los Angeles: Demand slow; trend un-

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changed; supply adequate; California production, high fat content, bran $49@50, sacked.

San Francisco: Demand good; supply ample; bran $40, sacked.

SCREENINGS

Minneapolis: Trading remains slow; supplies even tighter than last week, but prices unchanged; Canadian $22; domestic lights $8@12, mediums $13@20, heavies $21@30; 15% flax screenings $35.

Buffalo: Demand and supply fair; trend steady; ground, sacked $35.75, New York, lake and rail; unground, bulk $30, New York.

Chicago: Demand fair; trend firm; supply adequate; ground grain $32.50; Canadian $26.

Cincinnati: Demand good; trend higher; supply tight; unground grain screenings $23@25, Cincinnati.

SOFT PHOSPHATE WITH COLLOIDAL CLAY

(Sacked)

Atlanta: $20.40@20.67.
Buffalo: $25.31@25.45.
Chicago: $24.77@24.90.
Cincinnati: $23.47@23.60.
Des Moines: $25.23@25.35.
Kansas City: $24.88@25.
Memphis: $22.20@22.47.
Minneapolis: $25.93@26.06.
Philadelphia: $24.32@24.95.
St. Louis: $24.14@24.27.

SORGHUMS

Seattle: Demand and supply good; trend steady; $44, delivered carlots.

Ft. Worth: Demand fair; supply sufficient; No. 2 yellow milo $1.88@1.89 cwt., delivered Texas common points.

Ogden: Supply ample; $40@41.

Los Angeles: Demand steady; trend weaker; supply ample; milo $2.03¾ cwt.

SOYBEAN OIL MEAL

Minneapolis: Interest appears to be centered mostly in a draggy nearby market; supplies up; demand slow; 44% off $1 to $39.50; 50% solvent down $1@1.50 to $44@44.50.

Ft. Worth: Demand fair; supply sufficient; 44% $54.80@56 November, $55.30@56.50 December; 50% $60.30 November, $60.80 December.

Los Angeles: Demand slow; trend weaker; supply ample; $67.10.

Boston: Demand fair; supply plentiful; 44% $42.50, 50% $47.50, both f.o.b. Decatur.

Wichita: Demand good; supply about offsets demand; 44% $61, 50% $67, sacked; 44% $58, 50% $64, bulk, f.o.b. Wichita.

Cincinnati: Demand good; trend lower; supply adequate; $44@44.50, Decatur.

Memphis: Demand poor; trend weak; supply ample; prime 44% solvent $43, f.o.b. Memphis.

Atlanta: Demand and supply good; trend steady; 44% $54.20, delivered.

Chicago: Demand quiet; trend easier; supply ample; Decatur basis: 44% protein, unrestricted billing $45, E.T.L. $42.50; 50% protein, unrestricted $49, E.T.L. $47.

St. Louis: Demand slow; trend easy; supply ample; 44% $48.

Denver: Demand fair; trend firm; supply ample; 44% $59.

Seattle: Demand good; trend steady; supply ample; $58.40, delivered carlots.

Philadelphia: Demand and supply fair; 44% $43.50, Decatur.

Louisville: Demand slow; trend easy; supply normal; $56.20, down $1.30, sacked.

Ogden: Supply ample; 41% protein $67@68; 50% protein $72@73.

Kansas City: Demand fair; trend steady; supply ample; 44% solvent process $43@44, Decatur.

Portland: Demand slow; trend lower; supply ample; $66.60.

Milwaukee: Demand and supply fair; trend weaker; $46, Decatur.

Omaha: Demand slow; trend steady; supply ample; 44% $49.70, delivered Omaha.

San Francisco: Demand fair; supply ample; $67.60.

TANKAGE

St. Paul: Demand slow; supply ample; $2 weaker on top side of range, compared with week ago, now $68@70.

Louisville: Demand fair; trend steady; supply good; 60% $70@75, sacked.

Chicago: Demand quiet; trend firm; supply fair; 60% protein $75, sacked.

St. Louis: Demand good; trend firm; supply ample; $66.

Ft. Worth: Demand good; supply inadequate; 60% digester $69, sacked, Ft. Worth.

Kansas City: Demand fair; trend steady; supply ample; 60% digester $67.50.

Wichita: Demand heavy; supply sufficient; 60% $80, sacked, f.o.b. plant.

Omaha: Demand good; trend strong; supply plentiful; $70.

Cincinnati: Demand fair; trend steady; supply ample; 60% digester $70, Cincinnati.

UREA FEED COMPOUND

Woodstock, Tenn.: Minimum 42% nitrogen, 262% protein equivalent; $100, bagged, f.o.b., freight equalized with nearest producing plant; bulk $96.

Lima, Ohio: Minimum 42% nitrogen, 262% protein equivalent $100, f.o.b. bagged.

Pryor, Okla.: Minimum 42% nitrogen, 262% protein equivalent; $100, f.o.b. bagged; $96, bulk, cars or trucks, freight equalized with nearest producing point.

New York: Minimum 42% nitrogen, 262% protein equivalent, $100, f.o.b. bagged; $96, bulk, cars or trucks, freight equalized with nearest producing point.

Belle, W. Va.: Minimum 42% nitrogen, 262% protein equivalent; $100, f.o.b. bagged; $96, bulk, cars or trucks, freight equalized with nearest producing point.

VEGETABLE AND ANIMAL FAT (HYDROLYZED)

Ft. Worth: Demand good; supply limited; 4½¢ lb., f.o.b. south Texas area.

WHEAT GERM MEAL

Minneapolis: Price leveling off after period of decline, fairly steady at $63, jutes.

Buffalo: Demand fair; trend lower; supply fair to good; commercial grade $66, sacked, f.o.b. Buffalo.

DEATH

(Continued from page 1)

and in 1949 was promoted to manager of the southern feed division in Memphis. He was elevated to national manager of feed sales in Chicago in 1956.

He is survived by his widow, Mary Kathryn, one son, Robert, and one daughter, Leah Kathryn. Funeral services were scheduled to be held in Geneva Thursday, Nov. 10, with interment in Texas.

HIGH PROTEINS

(Continued from page 1)

exceed, the record of 284 lb. per animal unit in 1958-59.

Oilseed Meal Outlook

In prospect is a total 1960-61 oilseed cake and meal supply slightly above the 12.4 million tons available in 1959-60. Production is likely to at least equal last year's level of 12.2 million tons. Carryover stocks Oct. 1 totaled 257,000 tons, 67,000 more than on hand Oct. 1 a year ago.

Imports have declined in recent years and in 1960-61 they may fall somewhat below the 44,000 tons imported in 1959 60.

Total exports of oilseed meal may fall considerably below the 837,000 tons currently estimated for 1959-60 when European countries bought heavily to replenish drouth-stricken feed supplies.

Allowing for exports at levels approximating the 1954-58 average and for about the same carryover on Oct. 1 of next year as on the same date this year, the quantity of oilseed meal available for feeding would be about 5-6% above that in 1959-60.

Animal Proteins

Supplies of meat meal and tankage probably will be somewhat smaller this fall and winter than last, reflecting smaller hog slaughter. For the entire 1960-61 feeding year, production is expected to run only a little below the large output of an estimated 1,617,000 tons in 1959-60.

While large supplies of tankage and meat meal were available in 1959-60, fish meal supplies were down substantially from the high level in 1958-59.

USDA notes that data are not reported on stocks of fish meal, but senses there may have been a larger-than-normal carryover of fish meal into 1959-60 in the hands of producers and consumers. Greater-than-normal consumption from carryover stocks would reduce the extent of the indicated drop in consumption based only on production and imports.

This fall and winter, tankage and meat meal prices may average near last year's, while fish meal probably will continue to be priced below comparable periods of the feeding season just ended.

"Later in the 1960-61 feeding year, supplies and demand for these feeds may reach a better balance," USDA adds, "resulting in prices advancing from the relatively low levels of this fall."

Oilseed Meal Prices

The new year's soybean meal supply has been forecast at about 9.4 million tons, a little above the 1959-60 supply. Exports are in for a reduction and the Oct. 1 carryover isn't expected to change. The quantity available for feeding may show an increase of 5-6%.

This means, of course, that soybean meal prices in 1960-61 probably will average a little below the 1959-60 level. But they are expected to return to a more nearly normal seasonal pattern.

Continued large supplies of cottonseed meal in the new feeding year and the outlook for smaller exports are expected to hold cottonseed meal prices under the year-earlier level through this fall and winter. For the entire feeding year, cottonseed meal prices probably will average a little lower than in 1959-60 when the price at Memphis averaged $56.25 ton.

Cottonseed meal supplies for 1960-61 are expected to be about 5% above the 2.6 million tons available in 1959-60.

A lower trend for linseed meal prices is anticipated also. This is forecast even though the supply may be a little below the 397,000 tons of 1959-60.

USDA explains the situation this way: Demand for linseed oil is dipping, which may mean a smaller crush. But exports of meal in the new feeding year are expected to drop from the high rate of 1959-60, and the tonnage available for feeding may exceed the 311,000 tons fed in 1959-60.

Other By-Product Feeds

Here's what USDA says about supplies of other by-product feeds.

Supplies of both brewers dried grains and distillers dried grains have been fairly constant in recent years and no major change is anticipated for 1960-61. This same outlook stands for gluten feed and meal.

Feeding of alfalfa meal in 1959-60 totaled 1,339,000 tons, and it's very likely that a figure near this will be recorded for 1960-61. USDA says use of antioxidants to stabilize the vitamin A content of alfalfa meal and adoption of lower cost inert gas storage have helped to broaden the alfalfa meal market.

Molasses supply in 1960-61 is still somewhat uncertain because a large part of U.S. imports come from Cuba. Prices of molasses were lower in 1959-60 than in any year since 1954-55, and larger supplies of molasses were available for feeding than in other recent years. However, it appears unlikely that all of the 33% increase in imports in 1959-60 over 1958-59 went directly into feed.

A buildup in molasses stocks would help to offset any potential cut in imports from Cuba. Sometimes the U.S. draws on more distant countries, such as the Philippines, and these countries may supply more in 1960-61. Yet, at this time, it appears probable that our supply of molasses available for feeding in 1960-61 will be smaller than in other recent years The uncertain supply situation in prospect could result in some strengthening of prices.

CAPITAL COMMENT

(Continued from page 1)

In any event, the president-elect is going to have a tough assignment implementing his generous campaign pledges to the farm belt—one example is parity income for their crops.

Feed Industry

Down to specifics—the feed industry is in a relatively solid position. It is protected against political attacks from the White House since the industry is one of the basic cornerstones of the food supply of the nation. In addition, the feed business has an outstanding record of making available larger supplies of meat, milk, butter and eggs at lower prices than have ever prevailed in this nation. This is true despite the influences of a high level of price supports for many farm commodities which enter into the feed supply.

In short, it is going to be most difficult for the incoming executive to cut back the direction which Secretary of Agriculture Ezra Taft Benson has pioneered during his eight years under the Eisenhower administration.

Food and Drug

For the feed industry, one problem looms large at the Food and Drug Administration. The present Secretary of Health, Education and Welfare, A. W. Flemming, will disappear from the local political scene.

There is a good suspicion that the new HEW secretary will be Rhode Island Democratic Congressman John E. Fogarty. HEW, and its administrative side-line FDA, now represents a big political plum. If the incoming Democratic national administration follows previous techniques, one may anticipate a renewal of the old slogan—"To the Victors, Belong the Spoils."

Another congressman on the Democratic side—somewhat obscure from broad public attention but mighty influential—who would have substantial influence on legislative action in the drug industry, and also indirectly in the feed industry, is none other than Michael J. Kirwan (D., Ohio).

It is not too early for the feed in-

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dustry to begin sharpening its tentacles here, to assure itself of adequate protection against the undetermined policies of the newly-elected president.

It must be remembered that he has advocated farm parity prices for farm commodities. If this is translated into action, it might price poultry and eggs out of the market. Also, feed prices could skyrocket in some important areas of the nation, and this would produce far-reaching damage to the feed industry.

This is the same feed industry that has done so much to put meat, milk, butter and eggs on consumer tables at reasonable prices. These items have been made available to people of virtually all levels of income—except, of course, the 17 million Americans who, according to President-elect Kennedy, go to bed hungry every night.

CONTRACTS

(Continued from page 1)

sippi farms had risen to $24.4 million, an increase of 66%. In 1959 alone, the number of layers on Mississippi farms increased by 2% and the output of eggs by 36% over the previous year.

Although contract production of table eggs is a relatively new development in Mississippi, its development has spurted since 1956. In that year, Mr. Sims says, there were only two agencies in the state contracting for the production of table eggs. These agencies were contracting with 43 producers who had a total of 77,000 layers. By 1959, eleven agencies were contracting with 497 producers for the output of 1½ million layers. Approximately 32% of all commercial layers in the state were under some type of contractual arrangement in 1959.

Contracting Forces

Contract production, says Mr. Sims, is the result of several economic and technological forces. Mr. Sims' list of these forces include:

- To meet the procurement policies of chain-stores, suppliers lined up dependable sources of large volumes of uniformly high quality eggs. So they turned to contracts with producers. "In so doing, suppliers have found that larger, more stable volumes enable them to reduce high fixed costs and that contract production enables them to more rapidly adopt technological advances in production and distribution.
- "For the feed company or other farm supply firm seeking ways to expand its market, contracts to assemble and dispose of the eggs of producers to whom it furnishes supplies was a logical step."

Producer Acceptance

Forces leading to widespread producer acceptance of contract egg production were varied, Mr. Sims mentioned the following:

- Farmers were seeking ways to reduce costs.
- For many producers, capital investments required for efficient production were prohibitive.
- Producers were seeking ways to improve markets and to reduce risks.
- Capital limitations tended to keep many farmers under-employed.

Two Types of Contracts

Basically, according to Mr. Sims, two types of contractual arrangements are in operation in Mississippi:

1. Under one arrangement, the producer provides land, laying house, equipment and labor while the contractor furnishes the chickens, feed, medications and supervision of flock management and markets the eggs.

Some of these contractors pay the producer a guaranteed and specified price per dozen for marketable eggs. Others pay a guaranteed salary based on the number of layers under his management.

Some contractors provide incentive bonuses to producers based on production efficiency.

2. The other basic type of arrangement provides that the producer furnish all production facilities, supplies and labor while the contractor (or marketing agency) stipulates management practices to be followed. He also assembles, grades, packages and markets the producer's eggs at current market prices based on designated market quotations.

"Most contractual arrangements contain both advantages and disadvantages for the producer," Mr. Sims observes. "For any producer, whether such arrangements are desirable or undesirable depends upon his individual situation and his attitude toward centralized control and specialization."

He believes contractual arrangements provide an opportunity for developing new ways of producing and marketing eggs, and they are likely to be expanded further.

However, Mr. Sims did not imply that independent egg production operations will fade out of the industry picture. He says, "Large, well managed, independent egg operations that can reduce costs and maintain close control over production and marketing have certain offsetting advantages over contractual arrangements."

CHICK HATCH

(Continued from page 1)

jump in the replacement hatch in 1961. USDA says that, while prices next fall will be down from a year earlier, the decline will not be extreme so long as the spring hatch doesn't exceed 1960 by more than 7 to 10%. If the hatch increase isn't greater than that, there will be a seasonal strengthening in prices next fall.

Because of the reduced chick hatch last spring, the laying flock the first part of 1961 will be between 5 and 8% below the total of 318 million layers on Jan. 1, 1960. The increase in hatchings in recent months is not enough to offset the earlier cutbacks which resulted from extremely low egg prices.

Just how much the laying flock is down will depend upon how rapidly producers cull their remaining 1959-hatched hens. The number of hens in flocks this fall has been substantially larger than usual because of higher egg prices, the shortage of replacement pullets and the fact that chickens can now lay longer.

Price Outlook

At any rate, egg production will be below a year earlier at the turn of the year and for some months thereafter, USDA points out. This, plus certain other factors, means that egg prices in the first quarter of 1961 will considerably exceed the relatively low levels of last January-February. Egg prices rose in March and April, 1960, and since then they have been higher than in 1959. A marked rise in March or April, 1961, is unlikely, however, USDA points out, and in April and beyond, prices are unlikely to top 1960 significantly. The reason, of course, lies in the expected larger hatch of replacement chicks. Egg production after about mid-1961 should exceed 1960.

It is noted, too, that expectations of bigger egg production will exert an influence on prices even before the increased production occurs. This is because of the effect on storage demand next spring.

With relatively large supplies of fresh eggs expected next fall, storage demand is unlikely to be strong unless prices decline more than seasonally by mid-spring.

Replacement Hatch

The hatch of replacement chicks next spring will, of course, increase because of higher egg prices. Actually, the increase may result in at least a partial egg price adjustment even before the main hatching season ends. However, says USDA, the decline in prices is not likely to be so sharp as to pinch producers, and farmers will go ahead with more chicks. The increase in hatchings is likely to be sharpest in the first four months, when 1960 operations were depressed by low egg prices. This increase in hatchings will be a continuation of a trend prevailing since last May.

USDA also points out that because of the increasing degree of commercialization in the present egg industry, producers are pressed to keep their laying houses full. This, too, will be an inducement for an increased number of replacements in the next six to eight months.

Before commercialization became so prevalent, the egg-feed price ratio during the hatching season was a good clue to the amount of change in chick hatching. In recent years, this indicator has become less precise. Nevertheless, the prospective ratio for next spring points in the same direction as would be expected normally.

The increase in replacement birds might be great enough to restore half or two thirds of the cut that occurred in 1960, when the 339 million chickens raised were 15% fewer than the year before, according to USDA. This prospective increase for 1961 is in addition to that which has occurred in 1960 since the 1960 estimate of chickens raised was prepared.

Situation Next Fall

Because of the gains in replacements raised and because of further increases in rate of lay per bird, it is expected that by the last quarter of 1961, egg production will be above this fall and prices will be lower.

Though prices will be lower, there is no reason to expect the decline to be extreme so long as the spring hatch doesn't exceed 1960 by more than 7 to 10%, says USDA. If the increase is limited to that amount, there will still be an appreciable seasonal tightening up of egg supplies between the first half of the year and the second, which will result in some seasonal gain in prices.

This view looks for a 1961 peak mid-month price averaging about 40¢, compared with the 43.4¢ reported for October, 1960. The fall peak in 1959 was 33¢.

If the early-season indications regarding size of hatch are different from the range expected in the USDA analysis, the price expectation is changed accordingly. If the hatch does develop differently, it is more likely to exceed the USDA estimate than to fall short.

MEETING

(Continued from page 1)

tees will be W. E. Glennon and Lee H. Boyd of AFMA and Alvin E. Oliver of GFDNA.

The proposed agenda for the first meeting is as follows:

1. Introductory remarks—FDA and Industry.

2. The Food & Drug Administration—Brief review of its organization and operation, with emphasis on the departments and personnel involved in establishing policy and in making key administrative decisions affecting the feed industry.

3. Current situation regarding use of certain additives under the "grandfather clause" interpretation of the food additives amendment.

4. Obligations and responsibilities of a manufacturer of concentrates containing a new drug(s)—responsibility of feed dealer, custom mixer and/or feeder who uses concentrates for further mixing.

5. Labeling of non-medicated feed containing a low level of antibiotic (for growth response and feed efficiency only).

6. Intepretation and clarification of interstate and intrastate business as it applies to the feed industry.

7. The residue problem—How can industry and government best work together to overcome any possible hazards in this area?

8. FDA feed mill inspections — Notification, procedures and methods, reports, formula disclosure, etc.

The GFDNA report said that results of the government-industry meetings cannot be predicted at this time, but industry spokesmen believe that FDA will acquire a deeper appreciation of the industry's problems. The meetings also should acquaint all branches and divisions of FDA with FDA's own feed industry regulations and policies. Information on FDA's interpretation of these regulations is expected to be valuable information for the industry.

As reported previously (Feedstuffs, Oct. 29), the meeting of the industry group with FDA was scheduled as a result of negotiations on the part of AFMA with Commissioner George Larrick of FDA to arrange periodic meetings to discuss matters of mutual interest.

The AFMA named its six committee members to represent feed manufacturers, and GFDNA named three members to represent dealers and country mixers.

CONDEMNATIONS

(Continued from page 4)

conditions create unwholesome food and what conditions should be passed. Mr. Munson says air sac conditions which prompt turkey rejections cannot be detected by the grower because of the absence of obvious symptoms, so it usually is a surprise to him when condemnations run high.

He said the University of Minnesota is sponsoring a study to find out why air sac conditions appear in some flocks and/or birds but not in others.

While rejection rates rose from say 1½% to 5% in some processing plants, this increase was only an average of condemnations among all flocks processed. It has been verified that rejections of some individual flocks ran up to 30-40% of the birds marketed. There was at least one instance in which half of a flock was rejected. But that was a small flock of only 100 birds.

Though some flock rejections ran high, many or more than likely most flocks went through inspections without higher condemnations, even during that particular two-week period in October.

Some blame for high rates of condemnation has been placed on poor management practiced by the grower. But this sort of statement, even if partially true, can't be applied across the board because, as has been pointed out by the secretary of Minnesota's turkey growers group, "some of the best growers in the state have had the highest condemnations."

He gave this example: A grower who had a history of low rejections, started with highly-rated poults, followed accepted management practices and used good equipment and buildings, sent 6,860 birds to a processing plant—and 1,864 were condemned, a rate of 27.2%.

He had a nearly equal number of birds processed through the same plant at a different time during the same day and his loss because of inspection rejections was less than 1%.

This grower concluded that standards followed by different inspectors were not uniform or that some birds of a flock can be troubled with diseases or unacceptable conditions while others are not.

It was reported also that some flocks were split by growers, part of them processed at one plant and part at another. "In some cases," said one representative of the turkey industry, "there was no comparison between the condemnation rate at one plant and that in another."

This same observer summarized the settling turkey condemnation problem in these words: "It's been a real headache."

Chicks Placed in Principal Broiler Areas

(000's omitted)

Week ending	Maine	Conn.	Penn.	Ind.	Ill.	Mo.	Del.	Md.
September 3	1,073	353	798	588	97	627	1,741	1,825
September 10	1,066	400	667	654	104	719	1,573	1,995
September 17	676	364	600	588	77	603	1,572	1,973
September 24	1,008	473	695	610	120	650	1,442	1,894
October 1	1,068	433	529	581	102	615	1,552	1,903
October 8	1,037	358	778	589	68	643	1,429	1,838
October 15	908	508	698	520	40	518	1,596	1,752
October 22	993	362	595	643	78	602	1,312	1,980
October 29	1,016	399	678	418	78	568	1,447	1,797
November 5	1,053	351	687	654	100	535	1,480	1,801

Week ending	Va.	W. Va.	N.C.	S.C.	Ga.	Fla.	Ala.	Miss.
September 3	817	413	2,838	280	5,972	245	3,232	1,994
September 10	784	420	2,693	308	5,960	206	3,000	2,022
September 17	790	363	2,717	297	6,139	185	3,115	2,009
September 24	778	313	2,645	276	5,961	200	3,107	1,944
October 1	678	423	2,844	303	5,946	202	3,085	1,880
October 8	809	326	2,873	326	5,694	202	3,084	1,884
October 15	713	356	2,809	317	5,750	198	3,099	2,027
October 22	684	385	2,746	302	5,624	228	3,053	2,057
October 29	714	353	2,820	308	5,627	205	3,156	2,094
November 5	767	400	2,890	284	6,410	178	3,132	2,179

Week ending	Ark.	La.	Texas	Wash.	Oregon	Calif.	Total 22 areas 1960	Total 22 areas 1959
September 3	3,104	356	1,703	298	197	961	29,512	27,913
September 10	3,035	356	1,611	233	224	1,020	29,050	26,268
September 17	3,073	334	1,616	278	188	920	28,477	24,682
September 24	2,905	325	1,658	242	237	1,006	28,489	24,573
October 1	2,825	356	1,623	216	181	1,109	28,454	24,612
October 8	2,865	346	1,615	256	208	1,033	28,233	24,674
October 15	2,884	319	1,635	218	214	1,024	28,103	23,755
October 22	3,022	337	1,608	263	137	892	27,903	24,066
October 29	2,998	341	1,660	182	158	1,051	28,068	25,712
November 5	3,222	345	1,642	262	126	1,036	29,534	26,271

ILLINOIS

(Continued from page 6)

finance their purchases that normally would be carried as accounts receivable.

"Just as soon as our plan for farm supply cooperatives became known, the independent merchants dealing in farm supplies also began asking for a plan whereby their customers could also be financed by Production Credit. Here again, we were glad to have an opportunity to extend our point of service and to place the complete facilities of the Production Credit system at the disposal and use of the farmer.

"The decision to enter into such financing must be made by the local Production Credit Assn. and the local dealer. The FICB will be fully informed of the terms and conditions on which the credit is to be offered and the bank must concur in the action."

Production Credit Associations are cooperatives and the farmer must own the usual amount of stock in the unit to qualify for his loan, Mr. McGuire commented.

He further stated, "The decision on the credit must remain in the Production Credit Assn. Loans considered to be of satisfactory quality may be handled by the association in the usual manner, leaving the dealer no further responsibility. On weaker loans the association may require the dealer's endorsement. It then requires the dealer's decision to determine whether he desires to assume this responsibility and contingent liability.

Dealer Endorsement

"In the case of dealer endorsement, the dealer must furnish the association his financial statement, and from time to time the association will advise the dealer of the amount it is willing to accept on his endorsement.

"To facilitate the handling of such credit and for the convenience of the farmer, arrangements may be made, in some cases, for a service point to be established at the office of the dealer. The necessary papers will be drawn on forms furnished by the association. Even though the dealer takes the application for credit, he does this only to assist the farmer in obtaining credit, and under no circumstances does the dealer act as an agent for the association."

Citing an example of how the program works, Mr. McGuire said, "Just a few weeks ago I was talking to the credit manager of one of the larger feed manufacturers, and he said, 'I have just had a very pleasant experience in working with one of your PCA officers. We have a dealer in this town who had over $72,000 in accounts receivable. We talked to PCA and explained our problem. The dealer showed him his accounts and found that several of the men were already PCA members and these he could handle immediately. Checking the list further, he found several more whose business he knew he could handle. In a six-week period, by working together, they had made loans to the feed dealer's customers amounting to over $50,000.'"

He added, "In broiler producing areas in Missouri and Arkansas this program has been very effective. We have several agreements with various organizations, such as feed manufacturers and feed dealers, where the total line of credit will approach a million dollars a year."

One Job Left

Mr. McGuire said he had no advice on how to run the feed industry but that he did have one thought he would like to leave with those attending. That was, "The farmer has only one job left to do in the agricultural industry—and that is production. This whole thing as it has developed today —integration—contract farming—or, the old way of selling one load of feed to feed out one bunch of cattle is not good business. This thing of lending money to do one specific job is not good business for ourselves, or for the men with whom we do business. Rather, we must look at the complete job to be done and realize he is the producer, he is the foundation of this business from which we earn our livelihood and that it behooves us, as individual businessmen to work toward strengthening his position and keeping him free and independent. . . .

"Farming has become a highly specialized business requiring large amounts of capital. It is estimated that the average farm in the Midwest has a capital investment of approximately $59,000 per farm worker, and that amount will likely have to be increased to maintain a satisfactory farm income. This will require an even greater amount of credit to furnish the capital necessary to protect the farmer and to maintain a profitable business. These changes are inevitable—we could not alter them even if we wanted to do so. However, through sound credit policies, the farm credit system can help the farmer exercise some direction over these changes."

FINANCING TODAY'S FARMER —The bankers' willingness to extend credit and the programing of loans were major points made by R. J. Solomon, assistant vice president and farm department manager, Citizens National Bank of Macomb (Ill.).

He said, "Bankers and lenders, as a whole, are anxious to extend credit, regardless of the impression we may give at times. The wise use of credit will result in increased farm earnings and there is no doubt about it, we are as anxious to achieve this result as you feed manufacturers."

Mr. Solomon continued, "Progressive lenders are always anxious to extend credit that is tailored to the needs of the farmer.

"Programing loans, of course, would include lending on the basis of loan purpose to be considered along with the normal three C's of credit, character, capital and capacity to repay. Certainly the larger capital loans should be extended over a reasonable length of time. Such debts can be a great hindrance to the operator if they are carried in the customer's short term credit area.

Programing Credit

"Programing credit is a joint problem between the banker and the customer. Certainly no credit plan would be a plan at all if it did not consider all the customer's credit needs. Rule-of-thumb financing is out. Formula lending, upon net worths or total assets, while in many cases are safe loans, quite often are not good loans. A complete credit program must include the answer to the question, 'How much credit will this customer need for the entire year?' and, 'How will these credit needs be met?' Management comes into play here in that cash projections need to be made. In the farm loan business, we refer to it as budgeting the loan to include all the expense for the year along with all the income. To complete the picture, the projection should present a reasonable estimate of the customer's position after the loan is repaid. Good credit plans should eliminate piecemeal financing. The customer should be able to get all his credit needs in one spot. I'm sure most of you here would be pleased if this result could be accomplished, as this would eliminate the need for the consumer sales people to have to carry the customer. Your sales could then be handled on a cash basis. As you know, plans, farmers' or otherwise, are always based on past experiences and, of course, past experiences are a matter of record. Management again enters the picture. Good farm records are an indication of good management. Farmers who know where they have been, where they want to go and how to get there, are the kind of customers bankers like to do business with."

Shrinking Numbers

Turning to the shrinking numbers of farmers, he said, "I, for one, do not believe that we are headed for corporate farming or vertical integration. Today's farm families furnish 74% of all the farm labor; 26% is hired. This per cent has not changed measurably since 1910. Does this look like corporation farming to you?"

Mr. Solomon commented, "I believe the farm customer's destiny of success or failure may well depend upon good, sound, realistic management in operation."

He stated that agriculture is one of the largest users of capital per person today.

He asked, "What does this mean to a country banker? It certainly means that today's lender is fast becoming a partner in the business costs of his farm customer. It means he can no longer be a partner or a limited partner, but he must be in to stay. Piecemeal financing, or as it is sometimes referred to as commodity financing, is out the window. There is no place for rule-of-thumb financing in today's agriculture.

"With guidance and adjustment a borrowing farmer can be successful. The answer in a nutshell lies in properly balanced customer financing and the maintaining of reasonable equities. Each individual case, of course, must be considered on its own merits, the effectiveness of the loan on production potential, and the end result, or what the customer's position will be after the loan is repaid."

THE FUTURE OF GRAIN BANKS —John W. Sharp, Ohio State University economist, said that "in the future the grain bank cannot stand alone and survive. I anticipate a greater emphasis on selling entire feed programs of which feed grain storage will be a part."

Predicting a more sensitive and ready to change feed business, Dr. Sharp said that there may be "short time competition to the grain bank by innovations such as mobile feed units and on-the-farm grinding." He said that such developments usually result when farm prices are in a relatively low position.

Dr. Sharp commented, "It is my opinion that the future will bring increased use of the contract in providing feeder services. Farmer-feeders are more aware of the risks than ever before, and contracting is a proven method of shifting the risks to other sources or individuals. Improved harvesting methods have increased the risks of storing corn and raised the cost of preserving quality. The entire feeding program will become increasingly more complex in the future. It will require better training on the part of the managers of organizations performing this service. Simplified methods of cost accounting will become a necessity since margins will be lower.

Foresees No Shift

"I foresee nothing in the future that would cause a shift in the increased trend to grain bank operations. I expect that the grain and feed bank will, in one form or another, be with us for a mighty long time. I do not mean that the facilities now performing this service will necessarily have the same identity as they have at present. Local feed service facilities will serve larger areas than the present 5-10 mile radius now being served by most elevators.

"If the elevators and feed mills continue to perform the grain bank service 10 or 25 years from now, it will be because they can do it cheaper than the farmer. I think they are the logical agency to perform this service. I think they will be equipped to do it, and I think they will rise to meet the challenge in the future."

Traces History

Tracing the history of the grain bank from about 35 years ago in Ohio, Dr. Sharp said that the greatest growth of the plan was associated with the development of bulk feed service. He stated that the farmer acceptance of it grew faster than elevators had dryers or aeration equipment which are essential facilities for reliable storage.

He said the change from corn pickers to picker-sheller units has hastened the off-farm storage movement. High moisture harvesting and lack of facilities for shelled corn storage were contributing factors, he pointed out.

The most important requisite for a good grain banking operation is customers who really need and can use the grain bank economically, he said. Those customers usually are hog or poultry farmers, since generally beef or dairy rations call for corn cobs, he stated. Some elevators solve this problem by stockpiling cobs for reconstituting.

The Ohio economist said that the grain bank has not been a raging financial success in Ohio. Most of the complaints on the grain bank from farmer-feeders are in the operational area, not the economic area, according to the economist.

Competition to the grain bank will probably come from the farmers themselves, according to Dr. Sharp. That will be in the form of on-the-farm storage which becomes more realistic with larger feeding operations.

Illinois Feed Assn. directors, elected to three year terms include: Clay Harrington, Pioneer Poultry & Supply Co., East St. Louis; Henry Marlowe, Marlowe's Feed & Hatchery, Huntley, and John Bennett, Bennett Feed & Grain Co., Bushnell.

MARKETS

(Continued from page 2)

the more or less standard 40-hour week is the exception.

Farmers have not been buying mixed feeds in any volume, although ordinarily by the end of the first week in November, irrespective of how quiet it may have been previously, there usually has been some stirring about with a broader demand ahead of "winter setting-in." It has not developed yet.

About the only exception that has been noted in this respect has been in cattle feeds. Although call has not been what might be called broad, it has been enough to attract at least a little attention.

The hog feed market remains without feature and the hog market itself continues to show much nervousness with some rather brisk changes of price trend from one week end to the other.

Call for egg feeds which was showing some pickup last week, continues at about the same pace.

South Central

Good demand for formula feeds continued this week giving most mills in the area a modest boost in sales. Manufacturers say business so far this month is about equal to that of a year ago, and furthermore, they expect sales for the November-December period to be well in line with the same months last year.

Cattle feed sales are reported to be moving a little slower, mainly due to the heavy deliveries that were crowded in just before the end of October. Dairy feed business is improving, both on low protein rations and high protein concentrate mixes. Hog feed sales are heavy at all of the firms.

Plant operating time is unchanged this week. All mills are on a five-day basis, some occasionally operating a few hours overtime.

Ohio Valley

With volume continuing this week near the satisfactory level of recent weeks in the Ohio Valley, there appeared to be no developing momentum that might move sales to higher levels at any time in the near future. This is being attributed to the huge surpluses of recently harvested farm crops.

Despite efforts of many chains to expand the market for poultry by urging early placements of orders for Thanksgiving consumption, the buyer response was said to have been disappointing, because families owning freezers previously had made their purchases, and it is yet too early for families without freezers to be in the market for holiday birds.

Ample retail supplies of other poultry and of all grades of eggs also continue available, with almost no price changes from a week earlier.

Mountain States

Feed prices generally are lower than last year, but volume is a little bit higher. Cattle feeding is starting to pick up, although ideal weather for range cattle has held back calf feeding some.

Pacific Northwest

Return of mild weather and continued heavy slaughter of turkeys was listed as the reason behind the slower movement of feedstuffs throughout the Pacific Northwest this week.

Trade sources indicated that formula feed sold in smaller volume in most areas. Feedstuffs prices followed an irregular trend with the market averaging lower during the generally quiet trading.

Buying interest for principal items slackened and there were reports that the supply of some items exceeded the present demand.

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Oil seed meal quotations were mostly $1 lower in the face of larger offerings and a lagging demand. Animal protein feed trading featured a $2.50 per ton advance for meat and bone meal. Dehy alfalfa meal listings climbed $1 higher during the period.

Corn prices declined as much as 50¢ ton on eastern shipments while local corn was priced $1.50 ton lower. Milo values were off $1 ton in front of slow trading.

Alfalfa hay prices were lower to steady throughout the Pacific Northwest as a result of continued moderate trading, however trade reports indicated additional inquiry for alfalfa hay following change to colder temperatures in most sections of Oregon, Washington and Idaho.

Southwest

Formula feed business in the Southwest continues at a good level. Most mills are running a full five days. Occasionally, a mill will report a slight slow-down from the previous week.

Cattle feed and hog sales were making up the major portion of the volume at most mills. Various poultry feeds, including egg feeds, made up an important portion of the total. Favorable conversion ratios were still encouraging formula feed consumption.

A slight cold snap that went as far south as Texas seemed to stimulate buying on the part of ingredient buyers to cover the formula feed sales they were experiencing while ingredient prices remained attractive.

Wisconsin, Wyoming Areas to Get Relief

WASHINGTON—The U.S. Department of Agriculture has designated five counties in Wisconsin and one in Wyoming as emergency areas where farmers and ranchers may buy government-owned feed grains at current support prices through March 31, 1961.

Wisconsin counties designated are Ashland, Bayfield, Iron, Price and Sawyer. Uintah County in Wyoming also was designated.

Drouth in the growing season and excessive moisture during harvesting have reduced the quantity and quality of 1960 feed production in the Wisconsin counties. The Wyoming county has suffered from severe drouth.

Commodity Credit Corp.-owned feed grains, as available, will be offered for sale in the designated counties.

In all, 99 counties or parishes are currently designated under the livestock feed program. Previously, 31 counties in Mississippi, 18 parishes in Louisiana, nine counties in Wyoming, six counties in South Dakota, 22 counties in Utah, and parts of two counties each in Idaho and Arizona have been designated as emergency areas under this program.

Record Tallow, Grease Output Predicted

WASHINGTON—A record output of 3,700 million pounds of inedible tallow and greases is forecast for the 1960-61 marketing year, according to the U.S. Department of Agriculture. This is compared with last year's previous high of 3,550 million pounds.

USDA predicts relatively low inedible tallow prices for the year ahead as output rises in 1960-61 and stocks remain large.

Prices in 1960-61 will depend to a large extent upon the level of exports, as little change is in prospect for domestic disappearance.

Previous prices of inedible tallow (prime, tank cars, Chicago) declined steadily from 6.1¢ lb. in October 1959 to 5.5¢ lb. in September 1960—an average of 5.6¢ lb. for the entire 1959-60 marketing year.

At the same time, domestic and foreign demand was strong, but increased output continued to depress prices. Prices so far this fall have been at the lowest level since 1953. In late October they were 5.4¢ lb., 0.7¢ below October, 1959.

The 1959-60 record level of 3,550 million pounds of inedible tallow and grease was about 350 million pounds more than the previous marketing year. Use of inedible tallow and grease in animal feeds dropped for the second year in a row, but the drop was offset by a rise in fatty acids, USDA said.

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